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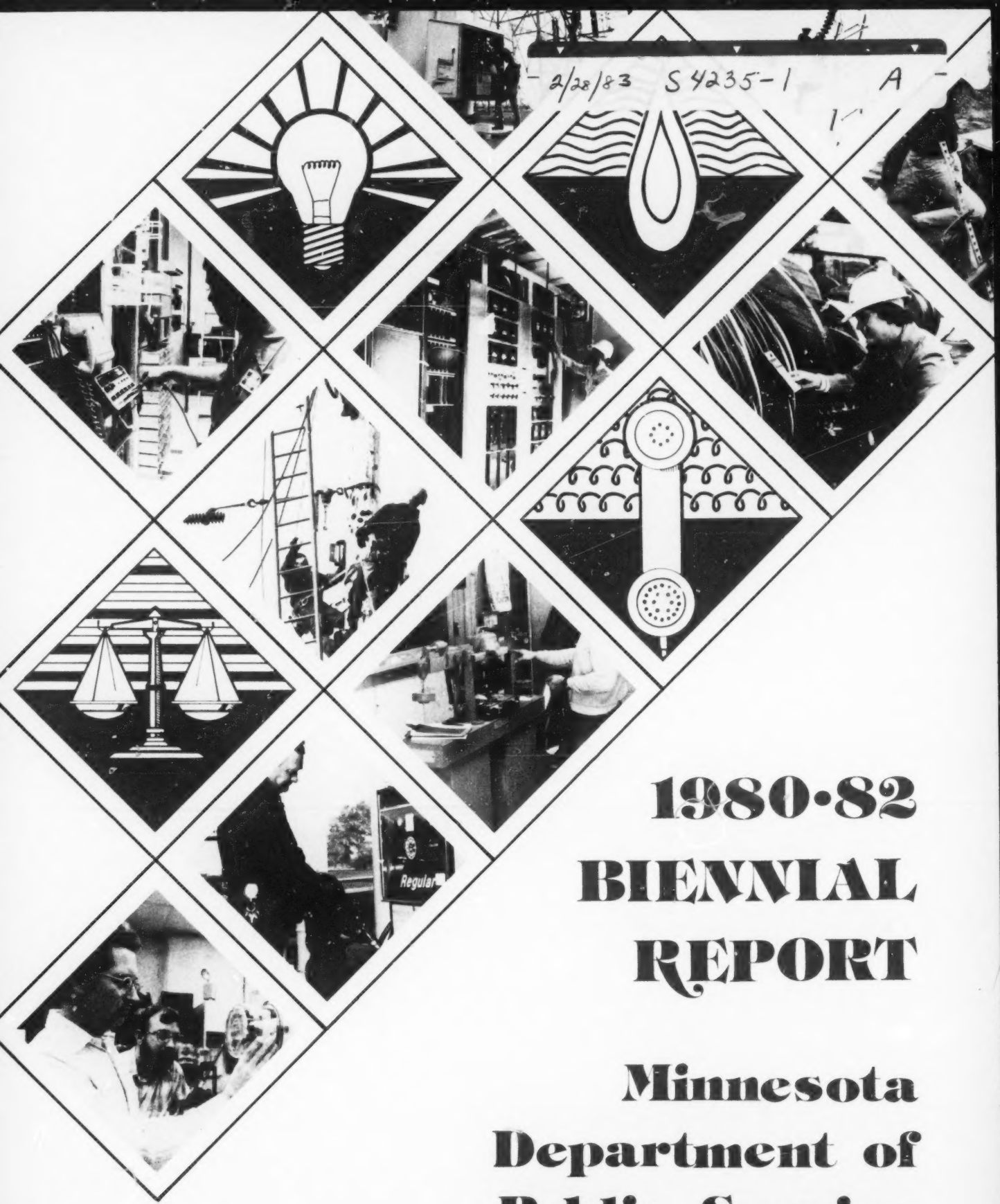

1980-82 BIENNIAL REPORT

Minnesota Department of Public Service

MINNESOTA DEPARTMENT OF PUBLIC SERVICE

Biennial Report 1979-1982

MDPS

Minnesota Department of Public Service

Public Advocate for the State of
Minnesota in Regulation of Public Utilities

Investigative and Enforcement Agency
for Weights and Measures

1980-1982
Biennial Report
MDPS Publication 1182
Editor: Bob Carlson

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Introduction

FOREWORD

Significant changes have developed in the role of the Minnesota Department of Public Service and in regulation of public utilities during the past biennium. This 1980-1982 Biennial Report covers those changes and details departmental activities in weights and measures responsibilities and in the regulation of gas, electric and telephone utilities.

This book, however, is more than a chronicle of department activities during the biennium. It is also designed as a one-stop resource for statistical data relating to regulated gas, electric and telephone utilities operating in Minnesota. In addition to historical data on utility rate cases, the report includes information on the regulatory process and rate case issues.

The statistics relate only to utility operations in Minnesota and are the most current available at the time of publication. A glossary of oft' used regulatory terms and phrases is also included.

The department's Research/Information Center is a further source of background and statistical data relating to public utilities and public utility regulation.

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An Introduction to the Department

Minnesota Statutes and Rules Relating to the Regulation of Public Utility Rates, Service

Regulation of gas, electric and telephone utilities providing service in Minnesota is carried out in accordance with laws enacted by the Minnesota Legislature and rules adopted by the Minnesota Public Utilities Commission, the Department of Public Service and the Office of Administrative Hearings.

– Statutes –

Chapter 216A
Department of Public Service

Chapter 216B
Regulation of gas/electric utilities

Chapter 237
Regulation of telephone utilities

Chapter 239
Weights and Measures

– Rules –

Weights and Measures
PSC 65-145

Telephone Utilities
PSC 170-219

Gas and Electric Utilities
Customer Service Rules
PSC 279-336

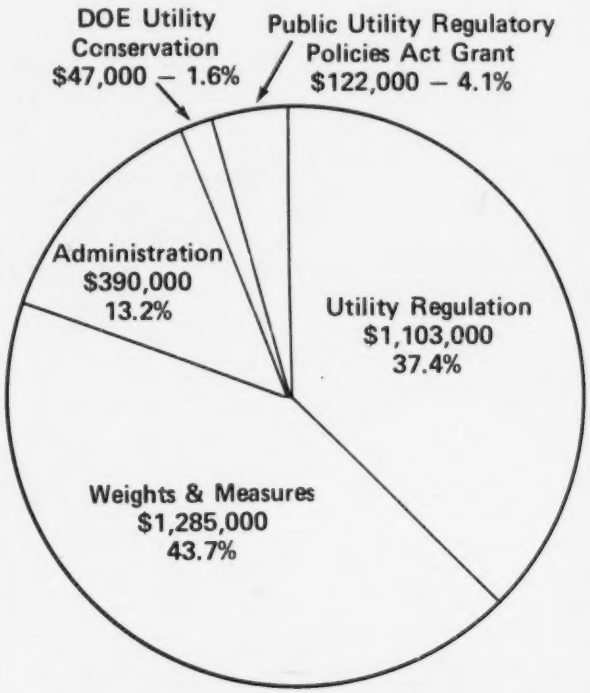
Regulatory Requirements
PSC 350-499

Rule Hearings
Contested Case Procedures*
9MCAR § 2.101-2.222

Copies of rules and statutes are available for review in the Department of Public Service Research/Information Center during regular working hours. Copies of rules and statutes may be purchased from the Documents Section, 117 University Avenue, St. Paul, 55155.

*Evidentiary and public hearings on utility rate matters are conducted under rules of the Office of Administrative Hearings.

DEPARTMENT OF PUBLIC SERVICE
FY 1981 EXPENDITURES $2,947,000



DEPARTMENT OF PUBLIC SERVICE
OPERATING COSTS BY PROGRAM
(In Thousands of Dollars)

	FY 1981	FY 1982
Utility Regulation		
General Fund	$ 946	$1,128
Revolving Fund	157	57
Weights & Measures		
General Fund	1,285	1,422
Administration		
General Fund	386	415
Federal Fund	4	0
DOE Utility Conservation		
Federal	47	0
Public Utility Regulatory Policies Act Grant		
Federal	122	13
TOTAL	**$2,947**	**$3,155**

An Introduction to the Department

MDPS Role Covers Utilities, Weights, Measures

The Minnesota Department of Public Service is a regulatory agency with statutory responsibilities relating to telephone, gas and electric utilities and weights and measures in Minnesota. The Department is an arm of the Executive Branch of Minnesota government, serving as public advocate for the state of Minnesota in the regulation of public utilities. The Department is also the investigative and enforcement agency for public utility and weights and measures statutes.

Utility regulatory responsibilities include investigation of utility revenue and rate matters, monitoring of rate adjustment clauses, investigation of utility acquisitions and review of proposed issuance of securities by regulated utilities. The Department undertakes special investigations and studies relating to utility rates, service and public issues. In contested cases, the Department serves as public advocate for the State of Minnesota, identifying issues and presenting various alternatives on financial, rate and service matters. The Department's recommendations, presented through sworn testimony, reflect positions which, in its opinion, are in the best interest of the broad general public.

The Department's Weights and Measures division has statutory responsibility to examine and evaluate all weighing and measuring devices in commercial service in the state to protect Minnesota citizens from false weighing or measuring transactions. The division was established in 1911 as successor to the State Scale Department, one of the oldest agencies in state government, established in 1895. The Weights and Measures division is divided into two major functional units and is responsible for the accuracy verification of every weight, measure and weighing or measuring device used in the state. The responsibility also extends to ensuring accurate weight, measure or count in all commercial transactions.

The Department staff includes experts in weights, measures, statistics, econometrics, economics, accounting, engineering and related utility and regulatory fields. The Department director is appointed by the Governor. As administrative head, the Director enforces orders and directives of the Public Utilities Commission and develops the Department's administrative policies and procedures. Department functions are separated into a utilities unit, a weights and measures division and an administrative support section.

On July 1, 1980, the Department of Public Service and the Public Utilities Commission became separate, self-standing agencies.

With the separation, the commission is responsible for decision-making and policy-setting regulatory actions. The department is responsible for representing the public interest of the state and for the investigation and enforcement of commission orders.

The separation has permitted more effective use of resources by both agencies by allowing each to administer funds and to allocate staff to their specialized functions.

MPDS RESEARCH/INFORMATION SECTION

The MPDS Research/Information Section stores all completed files on matters under jurisdiction of the Department and the Public Utilities Commission. Copies of all regulatory orders, utility rates, service, service areas and quality of service reports are on file and available for public review. Work space is available to review copies of orders, testimony, transcripts and exhibits. Service area maps for telephone and electric utilities are available for review. Utility financial reports and tariff books are on file.

Because of the great demand for regulatory orders and documents, the Department is required to assess a charge for copies of official materials. Certified copies are priced at $2 for each document plus a flat charge of 25¢ per page for duplication. Other duplicates are priced on a variable scale set by the Documents Section based on the size, number of pages and difficulty of preparation. Requests for duplicates and/or certified copies of regulatory documents should be made through the Central Files Section, Department of Public Service, American Center Building, St. Paul, (612) 296-7100. Copies of utility service area maps are also available, on order.

An Introduction to the Department

Service Area Maps Available on Order

Thousands of miles of telephone and electric lines extend through Minnesota's 87 counties to provide essential energy and communication needs to citizens of the state.

By legislative action, telephone and electric utilities operate in assigned service areas and no other utility may serve outside its own service area without an order from the Public Utilities Commission.

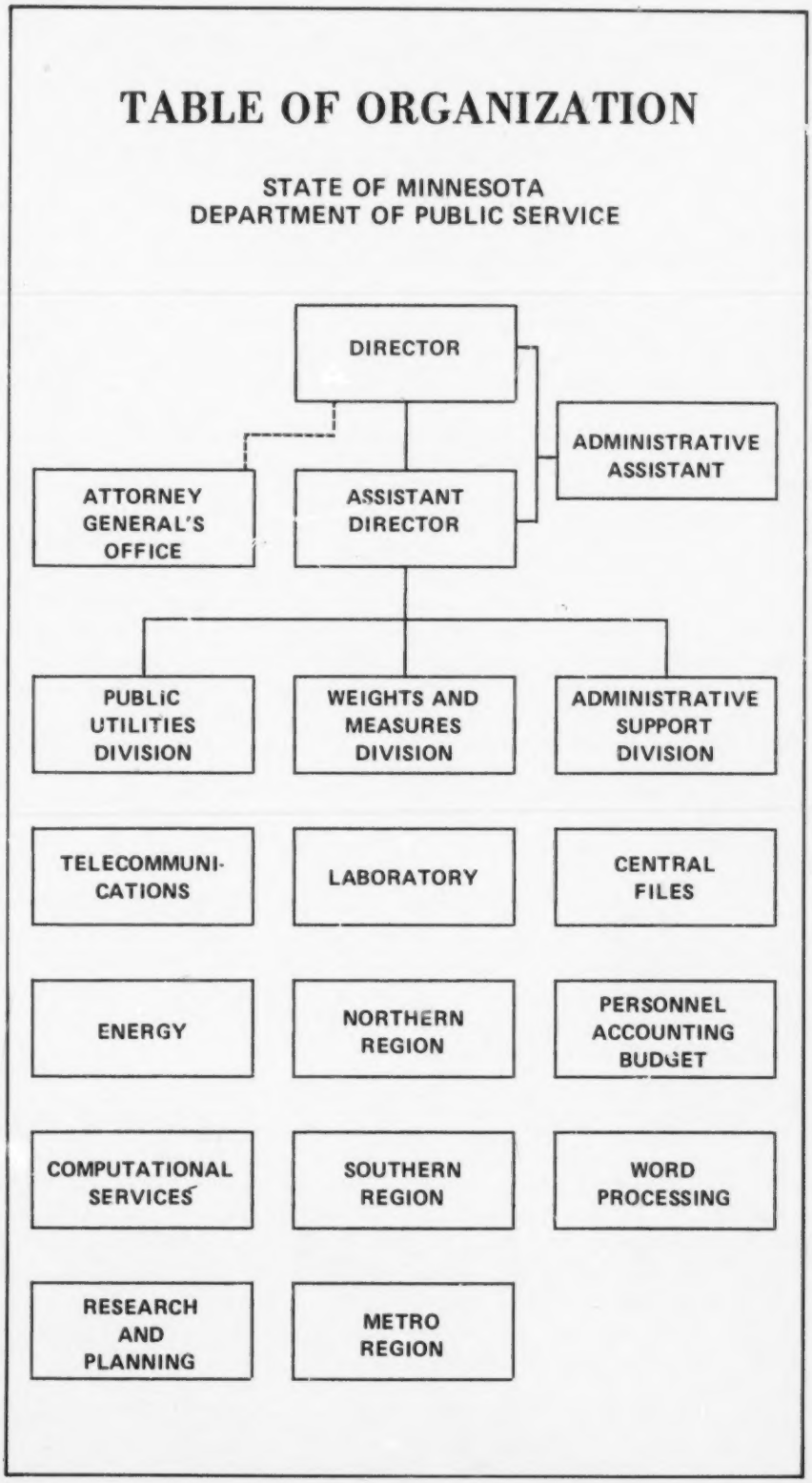
Monitoring 235 assigned service areas for electric utilities and 645 telephone service areas is another responsibility of the Department of Public Service. The department also oversees more than 25,000 miles of electric and telephone service area boundaries and investigates requests for service area changes.

Utility service areas are generally stable and any change in utility service areas requires investigation by the Department of Public Service and approval of the Public Utilities Commission.

The Department of Public Service staff devotes considerable time clarifying utility boundary lines, investigating service area disputes and making recommendations for their resolution.

The department maintains detailed maps of electric and telephone service areas which clearly define service area boundaries for use by utilities, utility customers, builders, construction engineers and agencies of government.

Utility service area maps are available for review in the offices of the department, 160 East Kellogg Blvd., St. Paul. Reprints of utility service area maps are available to the public on a cost basis.



An Introduction to the Department

Greater Efficiency Is Result of New Internal Restructuring

Establishment of the Department of Public Service as an independent agency, separate from the Public Utilities Commission, brought about an internal restructuring plan to improve the advocacy function of the public utility regulatory process and to more effectively key department skills to changing regulatory needs.

The new organizational structure has brought greater efficiency to the department's regulatory responsibilities by expanding and balancing staff skills in investigative and analytical areas. The action also reflects a growing trend by utilities and regulators to employ more sophisticated analytical techniques in the computational areas of utility regulation.

The department structure is now based on function, rather than training, through a telecommunications unit, an energy unit and a computational services unit. Staff functions center around work teams keyed to the production of end product testimony, exhibits and recommendations by type of utility.

The goals of the restructuring have been met, including:

- strengthening of the department's public advocacy positions in utility rate proceedings;
- bringing greater analytical skills into the investigative process, particularly on issues not contemplated when the former organizational structure was established in 1975;
- focusing staff skills and experience on particular issues relating to each regulated utility industry; and
- adding broader dimensions in analytical capability brought about by the addition of a new statistical analyst class.

Adoption of an innovative approach in analytical procedures, utilizing expanded statistical and computer techniques, has allowed the department to scrutinize utility revenue projections more thoroughly. This has not only resulted in more thorough and more effective regulation, but also resulted in substantial savings in regulatory costs. The establishment of new production units and revised work classifications resulted in savings of $170,000 to $210,000 originally appropriated for consulting services. Additional savings in regulatory costs are the result of more effective utilization of staff time.

The restructuring included expansion and refinement of the department's cost assessment coding system, which now recovers an additional $90,000 in annual direct charges from utilities that were previously billed as indirect charges. The expanded coding system also provides a broader utility data base without any increase in department costs.

Transmission towers supporting huge cables carry electric energy from generation facilities to consumers. Telephone utilities also use transmission towers for microwave transmission of voice and data.

MDPS Develops Rate Design Alternatives

An advocacy policy in utility rate design alternatives developed by the Minnesota Department of Public Service has resulted in various utility rate design alternatives that reflect a wider range of public issues, including diminishing energy supplies, allocation of energy resources, spiraling energy costs and rate proposals that are more reflective of consumers' ability to pay.

The added rate design alternatives reflect an expanded effort by the department to provide the Public Utilities Commission with as broad a spectrum of regulatory proposals as department resources permit. The policy expands past practice, when rate design proposals in utility rate proceedings were usually based on cost of service studies alone. The alternative approachs to rate design issues has been heralded as a further step by the department to more accurately reflect current consumer issues and public needs into utility rate proceedings.

In developing rate proposals the department continues to recommend the most economically appropriate rate proposals while providing rate alternatives that consider such issues as energy resources and the customers' ability to pay.

Questions regarding utility rate regulation may be directed to:

Director, Dept. of Public Service
7th Floor American Center Bldg.
Kellogg and Robert Streets
St. Paul, Minnesota 55101

Weights and Measures

Weights and Measures Unit Serving Since 1895

The Weights and Measures Division of the Minnesota Department of Public Service was established in 1911 as the successor to the State Scale Department which had begun operations in 1895. It is one of the oldest continuously operating agencies in state government.

The division is separated into two major functional units – the enforcement section and the metrology laboratory.

The enforcement unit has statutory responsibility to assure the accuracy of all commercial weighing and measuring devices and to verify the content accuracy of prepackaged consumer, farm and industrial commodities. The enforcement unit also assures the quality of petroleum products by testing samples taken at the retail level.

The metrology laboratory is the keeper of the state standards of mass, length and volume. The standards, which are traceable to the National Bureau of Standards, are the only means of providing uniformity of weight or measure for the entire state.

The Weights and Measures Division is positioned as a neutral party, protecting both buyer and seller, in weighing and measuring transactions. The division's regulations and enforcement activities control many billions of dollars of commerce each year. An estimated $13.5 billion of commerce in the grain and petroleum industries alone (most products are weighed or measured at least twice) would be thrown into confusion without the regulatory services of MDPS.

The standardization program that begins at the MDPS metrology laboratory ends at the multiple levels of commodity sales in the state's economy. The division's activities influence every level of commerce where weighed or measured commodities are bought, sold or traded.

The MDPS petroleum inspection section inspects all petroleum products wherever they are processed, held, stored or offered for sale or use.

Inspections are made of all distribution facilities selling or delivering gasoline to storage facilities by licensed bulk purchasers.

Statutory authority for weights and measures regulatory responsibilities are provided in Minnesota Statutes, Chapter 239.

Weights and Measures
Investigation/Enforcement Activity
Fiscal Year 1982

DEVICES TESTED	Total	Correct	Rejected
Heavy Capacity Scales (over 4,000 lbs. cap.)	2,793	2,150	643/23%
Livestock Scales	380	320	60/16%
R.R. Track Scales	141	130	11/8%
Grain Hopper Scales	214	206	8/4%
Law Enforcement Scales	250	220	30/12%
Light Capacity Scales	10,884	10,236	648/5%
Gasoline Pumps	24,698	23,070	1,628/7%
Petroleum Meters	4,515	2,909	1,314/29%* 292/6%**
LPG Meters	1,023	431	532/50%* 60/6%**
Petroleum Product Tests	11,301	11,102	199/2%
CHECKWEIGHING			
Packages Weighed	92,659	75,003	17,656/19%
LABORATORY CALIBRATIONS			
Weights	9,540		
R.R. Test Cars	20		
Liquid Measures	215		
Prescription Balances	30		
Other Precision Balances	32		
COMPLAINT INVESTIGATIONS	700		

*Adjusted **Rejected

Weights and Measures

Enforcement Unit Assures Accurate Weights, Measures

The enforcement unit of the Weights and Measures Division is involved in a wide range of inspection, testing and enforcement activities covering commercial weighing and measuring transactions. The thirty investigators assigned to the unit are responsible for the accuracy of every commercial weighing and measuring device in the state.

State statutes provide investigators with special police powers. They have the authority to enter any premises for the purpose of inspecting and testing weighing and measuring devices and weighed or measured commodities. This authority allows them to reject and prohibit commercial use of any device that is not in compliance with the technical and accuracy requirements prescribed by MDPS rules.

In the performance of these responsibilities the unit generates impressive numbers of tests each year (see chart). An emphasis on routine, unannounced inspections has yielded a dramatic increase in the proportion of devices found in compliance – because owner-operators have had to adopt improved maintenance procedures.

Two of the unit's most important activities are the accuracy verification and complaint investigation programs which allow the investigators to check on the actual every day use of devices. An accurate device is meaningless if it is not used accurately by its operator. These two programs help to control device usage by investigating consumer complaints and by checkweighting prepackaged, weighed and measured commodities to determine package accuracy.

In order to test devices ranging from prescription balances to gas pumps to railroad track scales, the enforcement unit employs a wide variety of expensive, complicated and heavy test equipment. Field test measures range from a fraction of a pint to 500 gallons capacity. Test weights range from 1/1000 lb. through 30 lb. test sets for grocery scales, up to 1,000 and 10,000 lb. weights and 90,000 lb. test cars for truck and railroad scales. The test equipment is expensive to maintain and operate, but it is the only means of regulating commercial weighing and measuring.

The enforcement unit also tests samples of gasoline, fuel oil and kerosene to determine whether these products meet Minnesota standards for quality and purity. The program assures consumers of high quality petroleum products.

The enforcement supervisor operates a program of voluntary registration for weighing and measuring device repair people. Registrants are permitted to place new and repaired equipment into commercial service. Their work is monitored by the enforcement investigators.

Travel Efficiencies Reduce Expenses

The weights and measures division, in the performance of its statutory responsibilities, requires a high degree of mobility. The division operates 40 vehicles which range from compact cars to 44,000 lb. tandem-axle trucks. Fuel consumption varies from 23 miles per gallon for the compacts to down to 3 miles per gallon for the heavy trucks.

In fiscal year 1980 these vehicles traveled 533,975 miles and consumed approximately 74,000 gallons of fuel for a fleet average of 7.2 miles per gallon. The 1981 mileage was 542,210, but the number of gallons of gasoline dropped to 73,000 and the fleet averaged 7.4 miles per gallon. In fiscal year 1982, the mileage was reduced to 496,389 and gallons of fuel used dropped to 63,600.

With sharply increasing prices, the division initiated a program to reduce fuel consumption while maintaining the same level of service to the public. This is being accomplished by reduction of the number of miles traveled and selection of more fuel efficient replacement vehicles. The total of 496,389 miles traveled in fiscal year 1982 was 119,228 miles less than the total for 1979. Fuel consumption in fiscal year 1982 was nearly 22,000 gallons less than the amount used in fiscal year 1979.

The significant reduction in fuel consumption was accomplished entirely through improved routing and scheduling of inspections. Further improvements, due to more efficient vehicles, will be noticeable in future years. The heavy duty truck fleet is being converted to diesel as old trucks are replaced. This will eventually yield a fifty percent reduction in fuel consumption for eight of the division's vehicles. Fuel consumption of the light duty vehicles will be reduced by about 20 percent through the selection of lighter and more fuel efficient vehicles.

Weights and Measures

MDPS Metrology Laboratory Holds U.S. Standards

The MDPS metrology laboratory provides a regional, or statewide, reference point for national uniformity in the measurement of mass, volume and length. The standards used by the laboratory, including weights, linear measures and volumetric measures, were provided by the National Bureau of Standards in 1971.

The MDPS metrology laboratory is certified with the Natural Bureau of Standards, which means that the Minnesota standards are maintained and cross-checked and that the metrologist reports regularly to the national bureau.

The primary state standards of mass, length and volume supplied by the National Bureau of Standards are the only official reference for all of the weights and measures used in the state. Any weight or measure calibrated in the MDPS laboratory is directly traceable to the United States standards maintained by the National Bureau of Standards.

These standards are used as the reference point from which approximately 10,000 other weights and measures are calibrated each year. These other weights and measures are, in turn, used in: pharmacies to determine accurate quantities for prescriptions; in scientific and engineering laboratories to make precise measurements for education, industry and defense; in grain grading laboratories to determine the quality of Minnesota's farm produce; in field installation, maintenance and testing of commercial weighing and measuring equipment used in grocery stores, gasoline stations, grain elevators and many other types of businesses.

The laboratory calibrates all field standards for the state weights and measures investigators, 350 registered repair services, various law enforcement agencies, and local units of government. Several hundred commercial and industrial operations also submit standards to the laboratory.

MDPS laboratory activities ensure that a pound is a pound and a gallon is, indeed, a gallon. The laboratory influences many aspects of Minnesota life ranging from education, research and engineering to agriculture, gasoline and groceries. The laboratory is an essential component of state commerce.

Inspectors from the Weights and Measures Division checked 4515 gasoline pumps during fiscal 1982, resulting in adjustments on 1314 pumps and rejection of 532 pumps.

Weighing Errors Impact Economy

The weights and measures division is responsible for the accuracy of all transactions involving weight or measure. While it may appear that the consumer is affected by weighing and measuring transactions only during the weekly trips to the grocery store and the gas station, the actual scope and value of commodities bought and sold across weighing and measuring devices is far greater. The value of almost any consumer commodity is affected by a number of weighing and measuring transactions before the final retail sale.

Commodities are frequently sold two or three times through regulated weighing and measuring devices before they reach the consumer. In a very real sense, the total value of commodities sold through regulated devices is two or three times the basic value that is assigned to a specific quantity. For example, if a farmer sells $10,000 in grain to a country grain elevator and the country elevator sells the same grain to a terminal elevator which, in turn, sells the grain to an exporter, the dollar amount of grain sold through regulated devices is $30,000 even though the quantity remained the same. An error in any of the weighing devices will impact the cost of the product at the next step and will have an ultimate impact on the economy.

315 Public Utilities Serve Minnesota

Minnesota citizens are provided gas, electric and telephone utility services through 315 public, cooperative and investor-owned utility companies.

Electric service is provided to 1,756,204 customers by 49 electric distribution cooperatives, 128 municipal electric utilities and seven investor-owned electric utilities. The 184 electric utilities have a Minnesota plant investment of more than $4 billion dollars and collected nearly $1.8 billion in revenues from Minnesota customers in 1981.

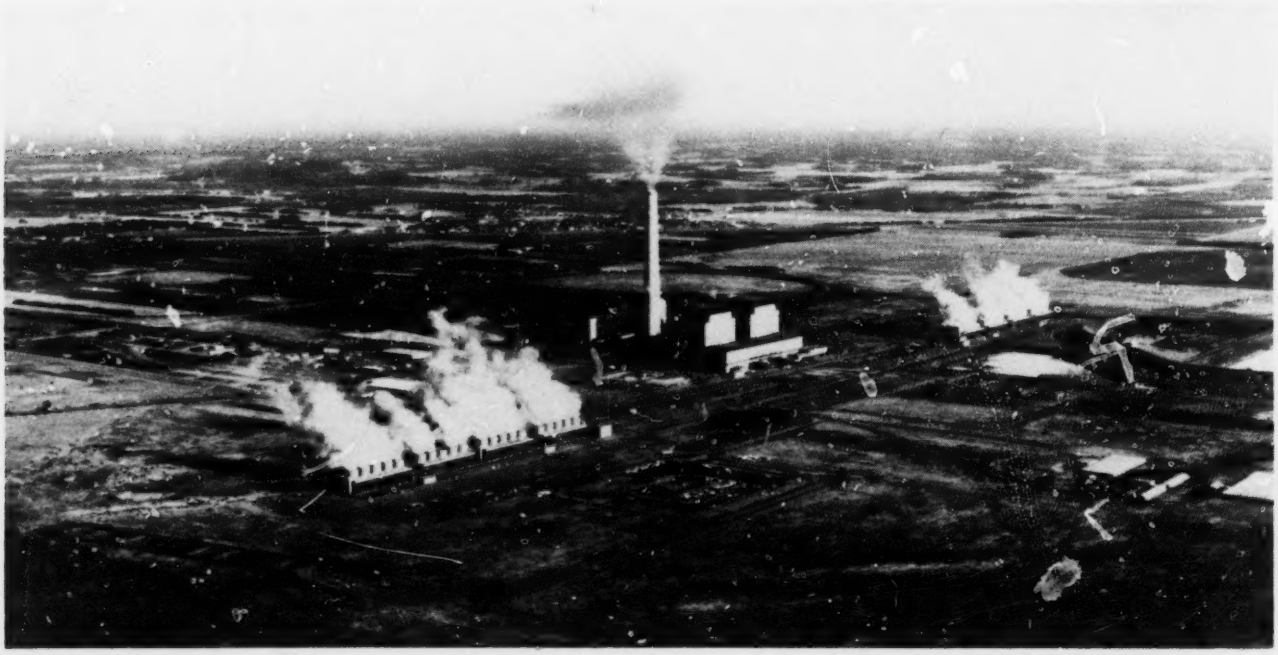
Natural gas is provided by 18 municipal gas utilities and 10 investor-owned gas companies. The 10 investor-owned gas utilities have a plant investment in excess of $588 million. Data on municipal investment for providing natural gas is not available. Minnesota's 28 gas utilities, including municipals, collected revenues of nearly $915 million in 1981.

Telephone service in Minnesota is provided by 23 regulated telephone utilities, 24 non-regulated cooperative and municipal companies, and 56 non-regulated companies serving fewer than 2500 customers. The 103 telephone companies serve 1.7 million customers and collected more than $1 billion in revenues in 1981. The 103 telephone companies have a Minnesota plant investment of nearly $3 billion.

The 315 gas, electric and telephone utilities operating in Minnesota have a total plant investment of nearly $7.7 billion to serve 4.3 million customers who paid more than $3.7 billion for their utility services in 1981.

Minnesota's Gas and Electric Utilities Act (M.S. 216B) does not apply to municipal utilities and applies only to electric cooperatives whose members choose to become regulated. Gas utilities serving fewer than 650 customers are also exempted from state rate regulation. Minnesota's Telephone Regulatory Act (M.S. 237) does not apply to telephone cooperatives and/or telephone companies serving fewer than 2500 customers.

Minnesota telephone utilities have been regulated since 1915. On January 1, 1975, Minnesota became the 48th state to undertake state regulation of gas and electric utilities.



Vast acreage and substantial water requirements are necessary for electric generation facilities. Photo above shows water cooling towers alongside a generating facility.

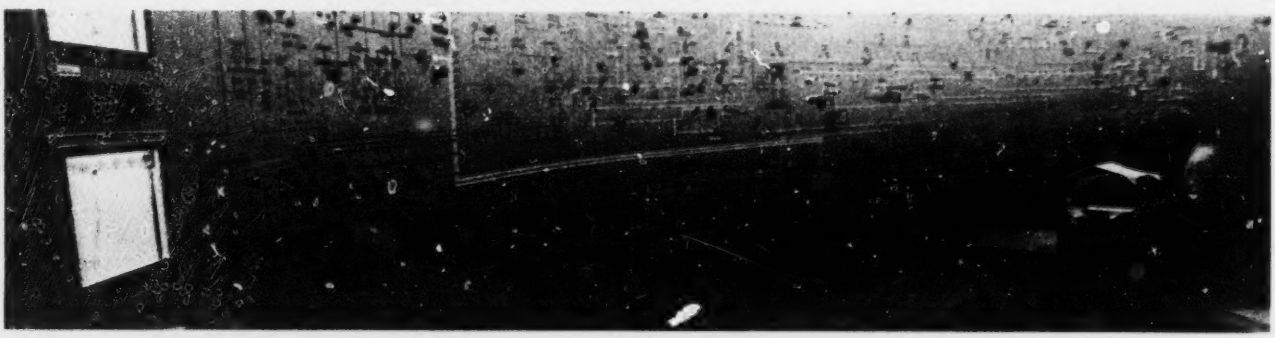
Minnesota's Public Utilities

MINNESOTA'S PUBLIC UTILITIES[1]

Natural Gas • Electric • Telephone

MINNESOTA ELECTRIC UTILITIES	Number of Customers	Minnesota Operating Revenues	Plant-In-Service
49 Electric Cocperative Utilities	432,092	$ 324,730,084	$ 561,542,982
128 Municipal Electric Utilities	256,519	205,751,343	N/A[3]
7 Investor-Owned Electric Utilities	1,067,593	1,229,912,037	3,544,810,456
TOTAL – 184 Utilities	**1,756,204**	**$1,760,393,464**	**$4,106,353,438**
MINNESOTA GAS UTILITIES			
18 Municipal Gas Utilities	53,395	$ 47,499,205	N/A[3]
10 Investor-Owned Gas Utilities[2]	794,150	866,889,355	$ 588,591,993
TOTAL – 28 Utilities	**847,545**	**$ 914,388,560**	**$ 588,591,993**
MINNESOTA TELEPHONE UTILITIES			
23 Regulated Telephone Companies	1,572,177	$1,046,571,305	$2,834,792,566
24 Cooperative/Municipal Companies	92,499	19,612,469	88,261,087
56 Companies (Fewer than 2500 customers)	45,713	14,968,189	60,337,417
TOTAL – 103 Utilities	**1,710,389**	**$1,081,151,963**	**$2,983,391,070**
SUMMARY			
184 Electric Utilities	1,756,204	$1,760,393,464	$4,106,353,438
28 Natural Gas Utilities	847,547	914,388,560	588,591,993
103 Telephone Utilities	1,710,389	1,081,151,963	2,983,391,070
TOTAL – 315 Utilities	**4,314,140**	**$3,755,933,987**	**$7,678,336,501**

[1] 1981 year end.
[2] Does not include gas utilities serving fewer than 650 customers.
[3] Data not available.



Coordination of energy supplies is handled by individual utilities and also between utilities through the Midwest Area Power Pool.

"Rate of Return" Is Vital Regulatory Consideration

In economic regulation of public utilities, "rate of return" is of tremendous importance, serving as the cornerstone in the determination of the appropriate revenue requirement in a rate proceeding for a public utility.

Even a 1% difference in the allowed percentage of return amounts to many thousands of dollars in the revenue requirements of a major utility with a multi-million dollar rate base. For instance, the impact of a 1% change in the rate of return to a company with a $1,500 million rate base would amount to a $30 million change in revenue requirements. A 1% change in the return on equity for a similar size utility would amount to $12 million.

Minnesota Statutes (M.S. 216B.16, Subd. 6) requires that regulated utilities be allowed to earn a "fair and reasonable return" on its investment. A fair and reasonable rate of return for a utility is based on a weighted average of the costs of the various kinds of capital which make up its total capitalization, including debt, preferred stock and common equity.

A fair rate of return is that rate, which when multiplied by the rate base (investment) will result in enough dollars to cover fixed charges of debt and preferred stock and also provide a fair and reasonable compensation to the common equity holders of the company.

Return on investment is the dollar amount earned by investors for allowing their assets (property, cash, etc.) to be used by a business. The term "return" refers to a dollar sum. The term "rate of return" refers to the percentage ratio of the dollar return to the dollar value of the assets invested.

An example of these terms is illustrated by an individual's passbook savings account. The dollar amount of the interest earned from the account over a year is the "return". The interest rate applied is the "rate of return".

In a competitive environment, product prices (rates) and ultimately a producers income and profit is determined by the free interaction of market forces. These market forces assure that the optimum level of goods and services are produced. However, in the non-competitive environment of the utility industry, it is the responsibility of regulatory agencies to substitute for market forces and the absence of competition to assure that regulated public utilities provide an appropriate supply of quality service at reasonable rates.

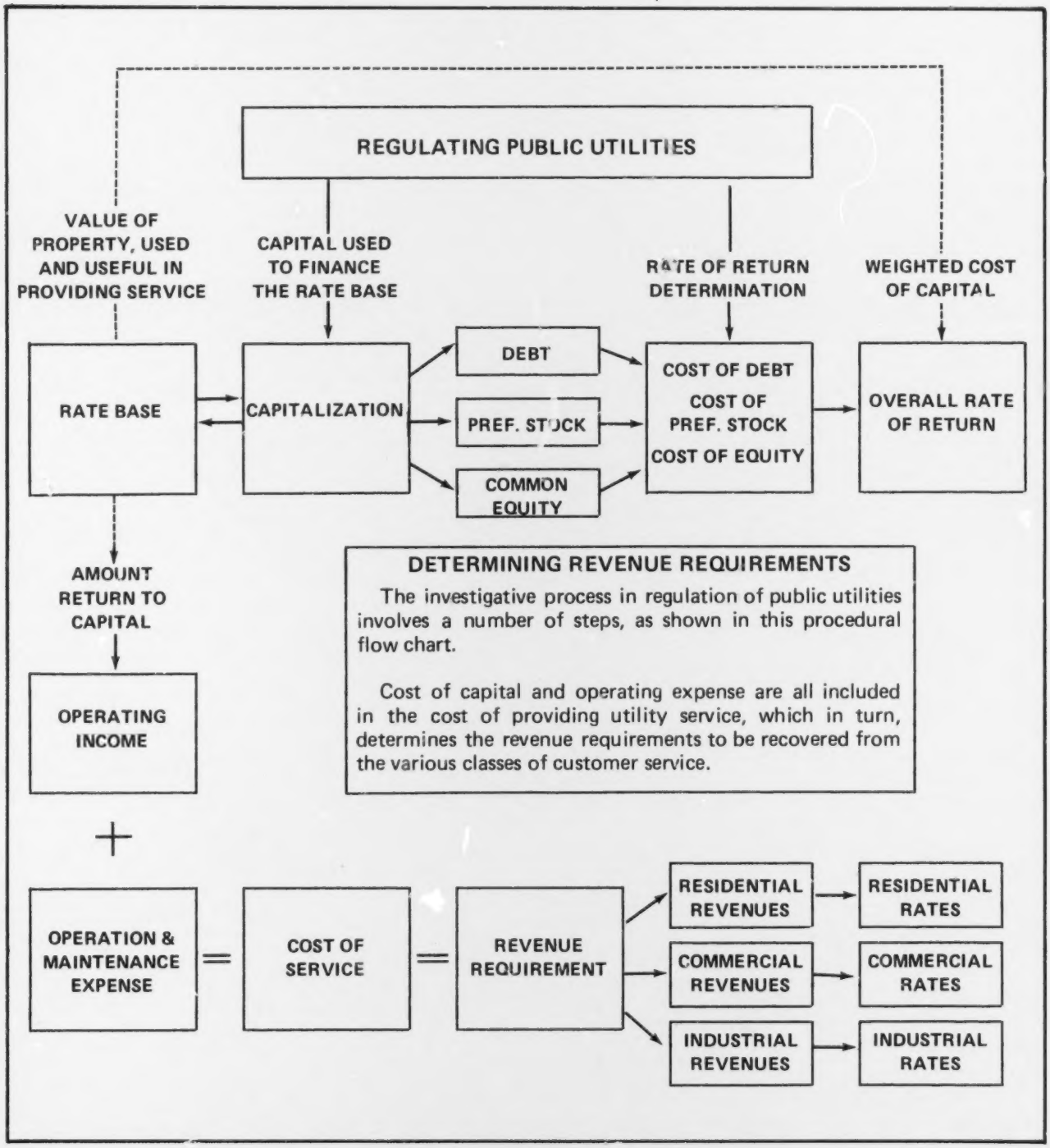
In order to provide adequate service, a utility must be able to compete for necessary funds in the capital market, with earnings sufficient to offer competitive return to investors. Thus, it is also the responsibility of a regulatory agency to allow a utility a reasonable opportunity to earn a competitive return on its investment.

In the regulatory process, a utility is not guaranteed a specific dollar return by the regulatory commission, but is given opportunity to earn a rate of return which the Commission determines to be appropriate.

The Minnesota Department of Public Service presents testimony in contested rate cases, recommending what it concludes to be an appropriate rate or range of return determined to be fair and reasonable.

Minnesotans are provided electric energy from 474 electric generating units with a capacity to provide 8,566 megawatts out-put at peak usage.

Utility Regulation


REGULATING PUBLIC UTILITIES
VALUE OF PROPERTY, USED AND USEFUL IN PROVIDING SERVICE
CAPITAL USED TO FINANCE THE RATE BASE
RATE OF RETURN DETERMINATION
WEIGHTED COST OF CAPITAL
RATE BASE
CAPITALIZATION
DEBT
PREF. STOCK
COMMON EQUITY
COST OF DEBT
COST OF PREF. STOCK
COST OF EQUITY
OVERALL RATE OF RETURN
AMOUNT RETURN TO CAPITAL
OPERATING INCOME
DETERMINING REVENUE REQUIREMENTS
The investigative process in regulation of public utilities involves a number of steps, as shown in this procedural flow chart.
Cost of capital and operating expense are all included in the cost of providing utility service, which in turn, determines the revenue requirements to be recovered from the various classes of customer service.
OPERATION & MAINTENANCE EXPENSE
COST OF SERVICE
REVENUE REQUIREMENT
RESIDENTIAL REVENUES
RESIDENTIAL RATES
COMMERCIAL REVENUES
COMMERCIAL RATES
INDUSTRIAL REVENUES
INDUSTRIAL RATES

The utility revenue/rate-making process is time consuming and administratively complex. The process covers 10 months and entails more than 90 distinct steps. Participation involves numerous state agencies plus a variety of user and consumer groups. Public and evidentiary hearings extend over several weeks with more than 50 separate issues often debated during a major case. Participating parties contribute testimony into each of the steps shown above. Due process requirements are major factors in a rate case time table.

Utility Regulation

MDPS Represents Public in Utility Rate Cases

Whenever a regulated gas, electric or telephone utility applies for higher rates, the Department of Public Service (MDPS) is immediately involved on behalf of the utility's customers and the broad interests of the general public.

As public advocate in utility rate matters, the department has regulatory responsibility to 3.4 million citizens served by 42 regulated gas, electric and telephone utilities serving Minnesota customers. Acting by statutory direction, the department's efforts are directed toward the balancing of interests of utility investors and utility customers and in providing the investigative initiative and recommendations to offset the absence of competition in the monopoly environment in which utilities operate.

In offsetting the absence of competition, the department conducts intensive investigations into all issues that impact rates, revenues and quality of service. Since 1975 MDPS has served as public advocate in more than 150 contested utility rate cases involving more than $1 billion – presenting facts and recommendations that resulted in rate cut-backs to rate payers of nearly $400 million.

During the 1981-82 biennium, MDPS served as public advocate in 28 utility rate cases involving $239.4 million in increased revenues. The department presented testimony and supporting data on behalf of tax payers, proposing rate cut-backs of $65.5 million.

Determination of reasonable utility rates is a complex mix of judicial and legislative functions designed to serve the contradictory needs of a utility and its customers. This balancing act is guided by an overriding statutory criteria that rates must be "just and reasonable and shall not be unreasonable preferential, unreasonably prejudicial or discriminatory."

In its investigation, testimony and presentation of recommendations, the department must be in accord with statutory requirements and commission rules. The Attorney General provides legal assistance to the department to assure that its recommendations are effectively presented and properly defended to receive ample consideration by the commission in its deliberations.

UTILITY FILINGS FOR RATE INCREASES
RATE CASES FILED
1975 – 1981

	Gas	Electric	Telephone
1975	2	8	11
1976	1	13	16
1977	4	17	4
1978	0	8	7
1979	1	1	5
1980	6	3	8
1981	6	6	9

UTILITY RATE INCREASES REQUESTED
1975 – 1981

	Gas	Electric	Telephone
1975	$ 53,560,394	$ 66,362,378	$ 898,348
1976	7,253,000	62,200,522	842,586
1977	18,578,933	108,142,748	12,080,029
1978	–	56,370,223	487,906
1979	100,242	27,400	36,402,209
1980	44,003,432	156,451,465	107,978,370
1981	22,104,972	178,773,696	11,410,452
7-Year Total	$145,609,973	$628,328,432	$170,099,900

– FIVE YEAR SUMMARY –
1977 – 1981

	Utility Increases Requested	MDPS Recommendation	Amount Granted
1977	$138,800,933	$ 83,481,909	$ 86,857,786
1978	56,858,129	14,304,083	34,375,838
1979	36,529,857	(–6,579,349)	27,198,998
1980	308,433,432	142,884,269	215,082,431
1981	212,289,120	146,129,994	147,906,794*

*Total of cases settled.

Utility Regulation

Informal Utility Regulatory Matters Investigated by MDPS

In addition to evidentiary rate case activities, the staff of the Department of Public Service investigates and proposes recommendations on a variety of matters that require regulatory decisions by the Public Utilities Commission.

These matters include tariff changes, utility extension of service matters, fuel and purchased energy adjustments, review of utility securities for capital expansion, service area boundary changes, acquisitions, sale and transfer of property and depreciation certification.

In the biennium July 1, 1980 through June 30, 1982, the department investigated and provided recommendations for commission decisions on 1,080 service and tariff matters.

Each matter is investigated by the department and the commission is given an investigation report and recommendation for decision. The department's investigation report includes data on the economic impact, prior precedents, statutory basis for the recommended action, plus all necessary economic information necessary to assist the commission in its decision.

The table on the right provides a tabulation of non-rate case utility regulatory matters investigated by the Department of Public Service during the 1981-82 biennium and in the 1980-81 calendar year.

MDPS Performs Numerous Tasks in Daily Regulatory Responsibilities

In addition to active intervention in utility rate cases on behalf of utility customers, the Minnesota Department of Public Service (MDPS) provides additional protection for rate payers on a day-to-day basis, including:

- Maintenance of utility rate and tariff books.
- Monitoring quality and adequacy of utility services.
- Monitoring utility accounting procedures and systems.
- Analysis of securities issued by utilities.
- Monitoring financial stability of utilities.
- Auditing utilities for compliance with statutes, rules and orders.
- Investigation of utility compliance with filed tariffs.
- Analysis of economic and service impact resulting from utility sales, transfers and acquisitions.
- Enforcement of statutes, regulatory rules and policies.
- Develop and recommend fair and nondiscriminatory rates for all utility customers.
- Promote economically efficient rate designs.
- Investigate potential economic and service impact resulting from changes in utility service area boundaries.
- Calculate and recommend a fair rate of return for utilities.
- Investigate utility investments and expenses as used for rate making purposes.
- Evaluation of utility depreciation rates and schedules.
- Review of utility statistical reports and documents.
- Investigate petitions and conduct balloting for Inter-Exchange telephone service (EAS).
- Supervise and conduct elections on rate regulation as requested by members of electric or telephone cooperatives.

The Department of Public Service also conducts special studies, surveys and research at the request of the Minnesota Public Utilities Commission and as part of the department's investigative responsibilities.

Informal Utility Matters Investigated by MDPS

Fiscal Year July 1, 1980 – June 30, 1981		**Calendar Year Jan. 1, 1980 – Dec. 31, 1980**	
Telephone Matters	396	Telephone Matters	424
Natural Gas Items	101	Natural Gas Items	63
Electric Matters	90	Electric Matters	56
Total	**587**	**Total**	**543**
Fiscal Year July 1, 1981 – June 30, 1982		**Calendar Year Jan. 1, 1981 – Dec. 31, 1981**	
Telephone Matters	311	Telephone Matters	405
Natural Gas Items	87	Natural Gas Items	128
Electric Matters	95	Electric Matters	117
Total	**493**	**Total**	**650**
BIENNIUM TOTAL	**1,080**	**TWO YEAR TOTAL**	**1,193**

Utility Regulation

MDPS Monitors Utility Automatic Rate Changes

There are two types of automatic adjustments of utility rates: (1) fuel clause adjustments which are applied to purchased fuel used to generate electricity; and (2) purchased gas adjustments (PGA) which are applied to gas purchased from natural gas suppliers by distribution utilities for delivery to its customers. Electric distribution cooperatives and municipal utilities which do not generate energy, utilize a purchase power adjustment (PPA) which is similar to the PGA used by gas distribution utilities.

The purpose of an automatic adjustment is to provide a utility with a means to recover a majority of the cost of fuel or cost of pipeline gas or cost of purchase power that is in excess of the cost included in the base rate.

Automatic adjustments receive considerable regulatory review by the Department of Public Service in accordance with established rules (PSC 390-395) which involve the same investigation that would be included in a general rate application. Each fuel adjustment for electric utilities is computed monthly according to the amount of kwh sales and fuel costs in the previous two months. Thus, there is a two month lag (or moving average) in computing the adjustment amount. The purchase gas adjustment is charged only when there is an increase or decrease authorized by the Federal Energy Regulatory Commission in the gate price of natural gas charged by the pipeline supplier. The distribution gas utility can only recover the increased cost of the natural gas as charged by the supplier. The department investigates each change in the fuel adjustment by each utility.

Automatic rate adjustments by public utilities were used as early as 1920 to speed credit to utility customers during periods when utility rates were declining. Some abuses of automatic adjustments resulted when costs other than fuel and energy were allowed in adjustment clauses. Minnesota's rules on automatic adjustment clauses were developed in 1975 after extensive review of adjustment clauses used in all 50 states. There was wide participation by the public and utilities in a series of rules hearings regarding the proposed rules. Extensive research was also conducted into various approaches to developing a means to recover or credit increased or decreased fuel/energy costs. Under Minnesota's fuel adjustment rules (PSC 390-395) a utility can only recover actual energy/fuel costs. The rule also requires credit to utility customers any time there is a reduction in fuel/energy costs to the utility. The automatic adjustment rule is also part of Minnesota's compliance with the federal Public Utility Regulatory Policies Act (PURPA).

Despite more sophisticated telephone equipment, there's still need for wiring to make connection with the telephone network.

Telephone/Electric Customer Balloting Assigned to MDPS

Through statutory assignment and commission rule, the Department of Public Service has been given the additional responsibility to provide a balloting mechanism for those who petition for rate regulation of electric distribution cooperatives and for telephone subscribers petitioning for inter-exchange telephone service extending beyond their local exchange area.

During the biennium, a total of 46,827 members of three electric cooperatives have been balloted as to whether they wanted state regulation of their electric rates. An additional 44,401 ballots were sent to subscribers of 31 telephone exchanges offering opportunity to vote for or against extended area telephone service to neighboring communities.

Statutes relating to both electric (MS 216B) and telephone (MS 237) regulation provide procedures whereby members of electric and telephone cooperatives which are exempted from state regulation, may vote to become subject to rate regulation by the state. Rules of the Public Utilities Commission provide standards whereby telephone subscribers can petition for an election for extension of a local exchange calling area.

The Department of Public Service has responsibility for investigating the petitions and conducting the balloting.

AFUDC is Much Debated Utility Rate Case Issue

Much has been said and written about an allowance for funds used during construction in utility rate proceedings, a regulatory matter that enters into nearly every utility rate case.

An "allowance for funds used during construction" (AFUDC) is a non-cash item that utilities are commonly allowed to add to the construction cost of a facility to compensate for the "opportunity cost" of having funds tied up in building new capacity as opposed to earning a return in an alternative use. AFUDC is computed by applying an established percentage rate to the eligible construction work-in-process (CWIP) account balance. The resultant product is generally added to the CWIP account until the plant is placed in service, at which time the entire balance (CWIP and AFUDC) becomes part of the rate base.

For a regulated utility, CWIP and AFUDC are treated in one of three manners: (1) CWIP is excluded from the rate base and AFUDC is not considered in determining revenue requirements; (2) CWIP is included in the rate base and revenue requirement from current customers are reduced by the amount of AFUDC (method generally used by Minnesota PUC); and (3) CWIP is included in the rate base and no AFUDC is charged or capitalized.

When AFUDC is added to the CWIP account balance, it becomes part of the utility's investment and must be amortized over the life of the plant. Proponents of this approach argue that it spreads the total cost of the plant to those consumers who eventually use the plant's output. However, if AFUDC is not charged and CWIP is included in the current rate base, current utility customers bear the opportunity cost of having funds tied up in construction. Proponents of this latter approach argue that: (a) the method provides immediate cash and reduces the need for raising capital, thus reducing the cost of capital; (b) the plant expansion will benefit existing users; and (c) inclusion of the AFUDC costs in the current rates will tend to curtail demand and cause future expansion to be smaller.

AFUDC impacts the economic viability of a utility because: (1) Capitalization of AFUDC slows the cash flow to a utility and cash flow is likely to be a significant start-up problem (assuming cost based rates) for any utility involved in a major construction effort; (2) Capitalization will tend to lower rates in initial years and raise them when the construction projects go into service. This effect will tend to make capitalization of AFUDC more attractive to consumers on a cost basis.

In the initial start-up phase of a utility during which there are no customers, capitalization of AFUDC is not an issue because all AFUDC will be capitalized. AFUDC is an issue only when there is an expansion of the system after start-up. Total capital requirements of a utility could be increased by the amount of the AFUDC rate.

Hearing Examiners Preside at Utility Rate Proceedings

Contested hearings in utility rate matters are conducted by an attorney from the Office of Administrative Hearings in accordance with provisions of M/S Chapter 15. The Hearing Examiner performs a role similar to an administrative law judge throughout the proceeding. He or she is responsible for arranging the schedule of testimony, cross-examination, rebuttal, surrebuttal and brief submission and rules on matters of discovery, evidence, relevance, etc. The hearing record, including all accepted written and verbal material and transcripts, is his or her responsibility.

At the conclusion of hearings, the Hearing Examiner prepares findings and recommendations for the Commission. This document covers procedural history, findings of fact, conclusions of law, and an order. The findings of fact consist of the examiner's judgment on each of the multitude of issues brought to the record during hearings. In a major rate case, the findings may cover fifty or more distinct issues. The conclusions of law are the Examiner's rulings on legal points such as standing, discovery, relevance, or any other legal issue raised by parties in the proceeding. In assembling his or her report for the Commission, the Examiner usually has benefit of suggested findings submitted by each party to the case which help the Examiner sort out the views of each party and evaluate their support in the record.

The opinions and recommendations of the Examiner are strictly advisory and non-binding on the Commission. Final decisions are solely the responsibility of the Public Utilities Commission.

MDPS Testimony Covers Wide Range in Utility Rate Case

Rate of return and financial adjustments of utility expenses and rate base are major issues in development of testimony and recommendations of the Department of Public Service in utility rate case proceedings.

However, the department's investigation extends to many additional issues that have substantial impact on utility rates and rate design.

Following are some of the many economic issues and regulatory policy matters the Department of Public Service has brought into recent utility rate case records through its investigation and testimony:

Issues Common to All Utilities

Rate of Return:
- a) Discounted Cash Flow Method
- b) Cost of Capital
- c) Capital Structure
- d) Overall Rate of Return
- e) Flotation Costs

Appropriate Rate Structures
Jurisdictional Allocations used in determining cost-of-service
Revenue Requirement for Test Year
Working Capital:
- a) Lead-Lag Studies
- b) Cash Working Capital
- c) Prepayments

Construction-Work-In-Progress
Advertising Expense
Membership Dues
Charitable Donations
Rate Case Expenses
Rate Base Items
Quality of Service
Forecasted Test Year Sales, Expenses & Revenues
Allowance for Funds Used During Construction (AFUDC)

Electric Issues

Decommissioning Expense of Nuclear Plants
Financial Soundness
Rate of Return & Patronage Capital
Time of Day/Seasonal Rate Differentials
Reconnection Charge
Costs of Sherco III
Abandonment of the Tyrone Project by NSP
PURPA Ratemaking Standards:
- a) Cost-of-Service
- b) Declining Block Rates
- c) Time of Day Rates
- d) Seasonal Rates
- e) Interruptible Rates
- f) Load Management

Marginal Cost-of-Service Studies
Seasonal Rates
Appropriate Customer Charge
Stretcher Blocks
Residential Conservation Service (RCS) Program
Litigation Expenses
Research & Development Expense
Donations
Membership Dues
Jurisdictional Cost Allocation
Demand Metered Rates
Charges for Underground Service
Lifeline Rates

Telephone Cases

Local Measured Service
Extended Area Pricing
Semi-Public Telephone Rates
Directory Assistance Charging
Western Electric Pricing
AT&T License Contract Payments made by NWB
Affiliated Interests
Repression
Coin Telephone Rates
Toll Revenue Analysis
Rates for Miscellaneous Equipment and Services
Residential/Business Rate Differentials
Service Connection Charges
Unbundling Local Rates
Deposit and Advance Payments Policy
Maintenance of Inside Wire
Promotional Advertising
Charitable Contributions
Organizational Dues
Uncollectible Expenses
Toll Separation Study
Uniform Rates for all Exchanges
Rates for Standard Instruments
Extension Charges
Tariff Book Requirements
Property Held for Future Use
Consolidation of Rate Groups
Trouble Report Indices

Gas Issues

Late Payment Charge
Determination of Appropriate Customer Classes
Seasonal Surcharge
Bill Comparisons
Advertising Expense
Officers' Salaries
Officers' Life Insurance Premium Expenses
Working Capital
Itemized Bill Format
Cost-of-Service Study
Lifeline Rates
Inverted Rates
Purchased Gas Adjustment
"Rolled-in Rates"
Appliance Service and Installation Activities
Volumetric Cost of Service Study
Flat Rates

Utility Regulation

Federal, State, Local Governments Influence Public Utility Rates

In addition to the broad utility regulatory responsibilities of the Minnesota Department of Public Service, several other Minnesota state agencies have regulatory responsibilities which influence utility rates and service.

These agencies include the Public Utilities Commission, Minnesota Department of Energy, Planning & Development, Environmental Quality Board, Pollution Control Agency and the Residential Utility Unit of the Office of Consumer Services.

Requirements of these agencies, state and local tax policies, and various requirements of local units of government all impact the costs of providing utility services.

Actions on the federal level, ranging from federal tax laws to environmental protection standards, also impact the price of a cubic foot of natural gas, kilowat of electricity and the cost of a telephone call.

The federal government exercises a strong hand in mandating many state regulatory policies through the National Energy Act. Action by the Federal Communications Commission (FCC), the Department of Justice and Federal Courts have mandated revolutionary changes in regulation of telephone utilities. Decisions by Congress and federal regulatory agencies have established both short-term and long-term pricing and supply policies of natural gas.

Thus, decisions of federal, state and local governmental units not directly connected with utility rate regulation have an influence on operating expenses, revenue requirements and rates of regulated utilities which must be considered in utility rate cases.

LEGISLATIVE HISTORY

DATE EFFECTIVE	
March 1871	Railroad Commission established.
January 1895	State Scale Department created; Railroad and Warehouse Commission created.
May 1911	Weights and Measures regulation established.
January 1, 1915	Minnesota telephone utilities placed under state regulation.
January 1, 1968	Railroad and Warehouse Commission renamed Public Service Commission; Department of Public Service established as an umbrella agency to provide administrative and enforcement services to the commission.
January 1, 1975	State regulatory authority over gas and electric utilities became effective. Public Service Commission expanded to five members.
April 8, 1978	Electric Cooperatives exempted from rate regulation.
January 5, 1979	Telephone Cooperatives exempted from state rate regulation.
July 1, 1980	Administrative separation of Department of Public Service and Public Utilities Commission, establishing two separate state agencies.
May 20, 1981	Gas distribution utilities serving fewer than 650 customers exempted from state rate regulation.
May 22, 1981	Telephone companies serving fewer than 2,500 subscribers exempted from state rate regulation.
May 1, 1982	Minnesota Statutes § 216B and § 237 amended to eliminate rates under bond; establish an interim rate procedure and to set a 10 month time limit on final rate case decisions by the Public Utilities Commission.

Telecommunications

State Rate Regulation Covers 97% of Telephone Utility Revenues

Minnesota's 103 telephone companies range in size from Northwestern Bell, serving more than 1.2 million subscribers, to small non-exchange cooperatives serving a few members in a small local area.

Only 23 of Minnesota's 103 telephone companies are under state rate regulation. However, the regulated companies serve nearly 92 percent of the state's telephone subscribers and collect nearly 97 percent of total telephone revenues. Ninety-five percent of the total investment in telephone facilities in Minnesota is owned by the regulated telephone companies.

There is a substantial variation in underlying costs among telephone utilities resulting in a wide range of rates charged within the state.

Wide variation also exists in the scope and extent of services offered, methods of financing, types of central office switching equipment and the geographical range of local service areas.

Recent actions of the FCC and other federal agencies has also imposed considerable impact on telecommunication services and pricing.

With deregulation of many phases of telephony, the number of suppliers of telephone equipment and telephone services has mushroomed. Competition has significantly increased the options open to consumers and allowed greater communication flexibility than ever before. Paralleling the entrance of competition into the telephone industry has been a higher cost of providing local telephone service.

Local measured telephone service is under study by MDPS as a possible means for individuals to control their telephone costs. Local measured service is a method of pricing local usage based on the number of calls placed and the length and distance of each call.

Federal action separating AT&T and local Bell system operating companies will result in many changes in service offerings and methods of pricing telephone services. A large portion of end-use terminal equipment has been exempted from rate regulation and more telephone users will own their own phones and interior wiring necessary to provide telephone service.

Successful Transmission

The 1876 Centennial Exposition in Philadelphia celebrated the one-hundredth anniversary of American independence. Included in the exposition educational exhibits was a device destined to revolutionize sound transmission. It had been sent there by a young Scotsman named Alexander Graham Bell. It attracted little attention until, in the following year, a public demonstration of the "telephone" was given at Salem, Massachusetts. To the amazement of those present, a spoken message was successfully transmitted from that city to the office of a newspaper in Boston.

MINNESOTA TELEPHONE FACTS

Minnesota has 103 telephone companies providing service to 1,710,389 customers. These 103 telephone companies consist of 23 regulated companies, 24 non-regulated cooperatives or municipals and 56 non-regulated independent telephone companies serving fewer than 2,500 customers. As of 1982, 97.2% of the households in Minnesota have telephones. Minnesota has 18,700 miles of telephone exchange boundaries, 22 times as long as the California coast.

The number of telephone companies operating in the state has dropped dramatically over time. In 1921 there were more than 2,000 telephone companies in Minnesota. In 1962 the number of telephone companies operating in the state dropped to 988. By 1970 there were 340 telephone companies, in 1974 there were 164 and in 1977 there were 138 companies. Today, the number of telephone operating companies in the state is holding at 103.

Gross operating revenues from all the telephone companies operating in Minnesota for 1981 exceeded $1 billion. Gross Plant Investment by these 103 companies in Minnesota totaled $2.9 billion. The average plant investment per customer comes to $1,744.28.

Over the course of an average day in 1981, Minnesota telephone consumers placed 14,728,992 telephone calls. This figure includes both local and long distance calls. The average monthly bill for a residential customer for local use was $12.36.

Telecommunications

MINNESOTA'S TELEPHONE INDUSTRY[1]

		Percent of Total
Number of Customers		
Northwestern Bell	1,221,075	72.93%
Continental Telephone Co.	83,837	5.01
United Telephone Co.	80,530	4.82
Central Telephone Co.	58,878	3.51
19 Independent Companies	127,857	7.63
Total 23 Regulated Telephone Utilities	1,572,177	93.90%
24 Cooperatives/Municipals[2]	52,500	3.37
56 Telephone Companies under 2500[2]	45,713	2.73
Total 103 Companies	1,674,390	100.00%
Number of Lines		
Residential Main Stations[3]	1,445,824	86.00
Business Main Stations[4]	233,850	14.00
Total 103 Companies	1,679,674	100.00%
Percent Main Stations Regulated		91.2
Telephones Per 100 Population		76.1
Percent of Households with Telephones		97.2
Gross Revenues		
Northwestern Bell	$ 895,165,791	82.80%
Continental Telephone Co.	45,947,233	4.25
United Telephone Co.	34,375,905	3.18
Central Telephone Co.	25,649,000	2.37
19 Independent Companies	45,433,376	4.20
Total 23 Regulated Telephone Utilities	$1,046,571,305	96.80%
24 Cooperatives/Municipals[2]	19,612,469	1.80
56 Telephone Companies under 2500[2]	14,968,189	1.40
Total 103 Companies	$1,081,151,963	100.00%
Utility Plant In-Service		
Northwestern Bell	$2,246,410,457	75.30
22 Independent Companies	588,382,109	19.72
Total 23 Regulated Telephone Utilities	$2,834,792,566	95.02%
24 Cooperatives/Municipals[2]	88,261,087	2.96
56 Telephone Companies under 2500[2]	60,337,417	2.02
Total 103 Companies	$2,983,391,070	100.00%
Investment Per Customer	$ 1,744	
Originating Telephone Calls Placed Daily[5]		
Local	14,046,598	
Long Distance	682,394	
Total 103 Companies	14,728,992	

[1] Data as of 12-31-81, Minnesota jurisdiction.
[2] Telephone Cooperatives and companies with fewer than 2500 customers are not subject to state regulations.
[3] Does not include residential extensions.
[4] Does not include PBX lines or business extensions.
[5] Minnesota only; 103 companies; originating calls only.

Telecommunications

Telephone Industry Facing Many Changes

A little over a half-century ago, Minnesotans were provided telephone service by more than 2,000 telephone companies, many with colorful names such as Big Woods Phone Company or Westerheim Swede Prairie Telephone Cooperative.

A significant number of these 2,000 companies were one-family operations or local cooperative groups serving fewer than 25 customers. Many did not provide exchange service, but rented switching facilities from another company in order to connect with the telephone network. Customers often provided their own maintenance of the lines and telephones.

Normal telephone service usually meant sharing the line with upwards to 20 or more customers. Placing a call often entailed a long wait for an operator's response and considerable line noise and cross talk.

The 2,000-plus Minnesota telephone companies operating in the '20's have been reduced to 103 companies which currently provide service to 1.7 million Minnesota customers. Technological changes have advanced telephone service from battery operated telephones, manual switchboards and mechanical switches to digital central offices with instantaneous push button calling to almost any spot in the world via microwave or satellite.

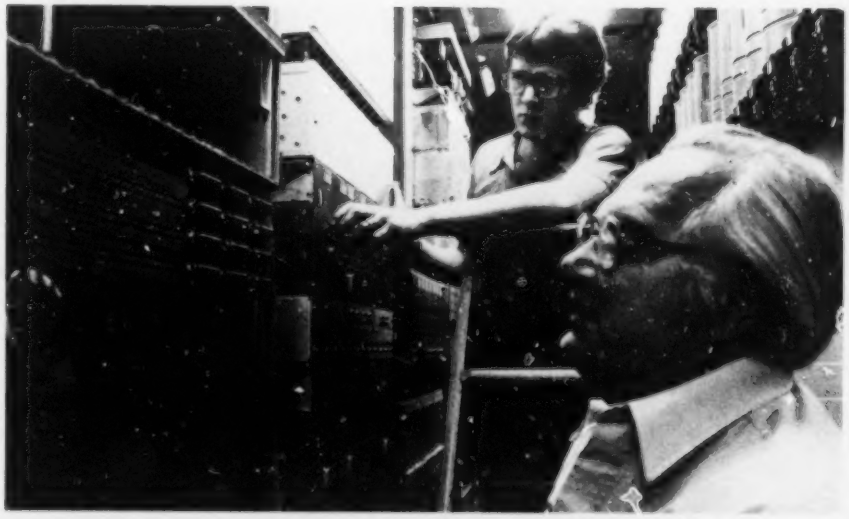
The telephone industry continues in the throes of change with the introduction of new communication innovations, competition and deregulation into what was once a value of service monopoly environment. The 1982 Modified Consent Decree between the Department of Justice and the American Telephone and Telegraph Company separated Bell operating companies from AT&T and divided the services and equipment to be provided.

The changes in the structure of AT&T and the Bell system will also have impact on the other 102 telephone utilities serving Minnesota, and will also bring changes to the regulatory process and the jurisdictional authority over various services.

Milestones of Minnesota's telephone industry were marked in 1879 when the first telephone was introduced to the state, and in 1915, when state regulation of telephone rates and service became effective. It is likely that 1982 will also be recorded in history as a milestone year of significant changes in telecommunications.

NUMBER OF PREFIX CODES FOR ALL MINNESOTA TELEPHONE UTILITIES

NORTHWESTERN BELL	
Twin Cities Area	186
Outside Twin Cities	172
Subtotal	**358**
REGULATED INDEPENDENTS	
Continental	117
United	50
Central	49
19 Other Regulated Companies	118
Subtotal	**334**
COOPERATIVE/ MUNICIPALS	124
NON-REGULATED INDEPENDENTS (Fewer than 2,500 customers)	90
TOTAL, 103 companies	**906**



Continued maintenance of telephone transmission equipment is a never-ending requirement in order to provide top quality telephone service to Minnesota citizens.

Telecommunications

MINNESOTA TELEPHONE UTILITIES

Operating Statistics

Regulated Telephone Companies	Number of Customers	Number of Telephones	Plant-In-Service	1981 Operating Revenues
Arvig Telephone Company	6,392	9,463	$ 11,081,781	$ 3,021,755
Blue Earth Valley Telephone Company	6,616	11,294	7,426,839	2,118,131
Bridge Water Telephone Company	3,067	6,203	4,574,871	1,515,501
Central Telephone Company	58,878	97,228	77,343,000	25,649,000
Continental Telephone Company	83,837	84,633	143,177,658	45,927,233
East Otter Tail Telephone Company	10,834	15,890	17,712,892	4,269,028
General Telephone Co. of the Midwest	3,624	5,728	4,861,250	1,369,203
Hohman Telephone Company	5,149	7,603	7,151,750	1,409,567
Hutchinson Telephone Company	5,857	9,623	8,484,449	2,210,953
Lakedale Telephone Company	7,404	10,776	108,589,929	2,621,772
Mankato Citizens Telephone Company	21,322	37,268	31,154,707	10,163,522
Melrose Telephone Company	6,711	9,033	5,496,962	1,616,899
Mid-Communications, Inc.	6,789	10,349	8,477,704	1,854,631
Mid-State Telephone Company	4,847	7,670	5,161,716	1,670,196
New Ulm Rural Telephone Company	13,057	13,227	9,033,248	3,165,417
Norman County Telephone Company	3,418	5,826	6,156,344	1,155,230
Redwood County Telephone Company	4,099	6,121	4,587,514	904,452
Scott-Rice Telephone Company	5,487	10,131	7,022,028	1,959,444
Sherburne Rural Telephone Company	3,999	6,720	6,127,202	1,513,023
Sleepy Eye Telephone Company	4,254	6,987	4,510,051	1,082,235
United Telephone Company	80,530	135,587	100,024,640	34,375,905
Wikstrom Telephone Company	4,931	6,662	10,225,574	1,812,417
Total 22 Regulated (Non-Bell) Companies Companies	351,102	514,022	$ 588,382,109	$ 151,405,514
Northwestern Bell Telephone Co.	1,221,075	2,495,120	2,246,410,457	895,165,791
Total 23 Regulated Companies	1,572,177	3,009,142	$2,834,792,566	$1,046,571,305
Total 24 Cooperative/Municipal Telephone Companies*	52,500	86,852	88,2[illegible],087	19,612,469
Total 56 Telephone Companies Serving Fewer Than 2500 Customers*	45,713	74,794	60,337,417	14,968,189
TOTAL (103 Telephone Companies)	**1,674,390**	**3,170,788**	**$2,983,391,070**	**$1,081,151,963**

Data: Annual Reports to Department of Public Service, 1981 year end, Minnesota Jurisdiction.
*Not subject to state rate regulation.

Telecommunications

MINNESOTA'S REGULATED TELEPHONE UTILITIES

Composite Statistics* – 23 Companies**

	Amounts
Plant (Intrastate Only)	
Plant in Service	$2,834,793,000
Construction Work in Progress	56,097,000
Plant Acquisition Adjustment and Plant Held for Future Use	581,000
Materials and Supplies	12,978,000
Less:	
Depreciation and Amortization Reserves	569,968,000
Net Book Costs	$2,334,481,000
Revenues and Expenses (Intrastate Only)	
Operating Revenues	$1,046,571,000
Depreciation and Amortization Expenses	158,570,000
Income Taxes	108,864,000
Other Taxes	83,646,000
Other Operating Expenses	505,502,000
Total Operating Expenses	$ 856,582,000
Net Operating Income	189,989,000
Other Income	6,217,000
Other Deductions	10,043,000
Net Income	$ 186,163,000
Customers (Intrastate Only)	
Residential – Yearly Average	1,356,766
Business – Yearly Average	205,742
Others – Yearly Average	9,669
Total	1,572,177
Telephone in Service (Minnesota)	
Residential Main Stations	1,357,734
Business Main Stations	221,080
Sub-Total	1,578,814
PBX Telephones	407,565
Residential Extensions	831,629
Business Extensions	191,134
Total Number of Telephones	3,009,142
Total No. of Calls	
Local Calls Per Day	14,046,598
Originating Toll Calls Per Day (both Intra- and Interstate Toll)	682,394
Total Originating Calls Per Day	14,728,992
Other Statistics (Intrastate Only)	
Average Residential Monthly Bill (Local Service Only)	$12.36
Gross Plant Investment Per Customer	$1,427.57

*As of December 31, 1981, Minnesota Jurisdiction only.

**Does not include Minnesota telephone utilities with less than 2,500 customers, telephone cooperatives, or municipal utilities.

Telecommunications

RATE CASE SUMMARY – REGULATED TELEPHONE UTILITIES

Rate Orders Issued from January 1, 1975

Utility and Docket Number	Date Filed	Increase Requested	MDPS Recommendation	Increase Granted	Allowed Rate of Return	
					Overall Return	Return on Equity
Central						
P 405 / GR-81-231	5-22-81	$ 3,400,000	$ 2,014,165	$ 2,442,076	11.21%	14.75%
Continental						
PR 121-1	3-7-75	3,300,000	1,842,500(R)	2,079,000	8.00%	12.3%
P 407 / GR-79-500	5-11-79	4,363,792	900,623	4,040,514	8.00%	13.3%
P 407 / GR-81-700	12-18-81	6,732,595	3,635,806	–	–	–
East Otter Tail						
P 408 / GR-81-330	6-24-81	270,000	(21,159)	247,623	7.06%	14.66%
General						
PR 402-1	2-24-75	75,242	75,242	75,242	8.04%	–
P 410 / GR-78-546	4-14-78	85,558	80,417	80,417	9.20%	12.66%
P 410 / GR-82-64	1-29-82	200,000	145,000(S)	–	–	–
Hohman						
P 534 / GR-80-523	7-14-80	203,000	136,143(S)	136,243	6.5%	11.93%
Hutchinson						
P 412 / GR-78-712	5-15-78	149,224	111,796	90,354	10.85%	13.2%
P 412 / GR-80-358	5-15-80	242,000	202,445(S)	202,445	10.23%	11.73%
Lakedale						
P 413 / GR-76-1822	8-27-76	156,429	121,906	127,048	6.65%	10.31%
Mid-Communications						
P 416 / GR-75-64	8-1-75	148,000	83,381	83,000	4.42%	13.4%
P 416 / GR-80-431	6-9-80	140,000	115,269(S)	115,269	6.19%	13.25%
Mid State						
P 418 / GR-76-3765	12-23-76	59,084	39,227	50,634	5.12%	11.68%
New Ulm						
P 419 / GR-78-369	3-6-78	154,101	154,101	154,101	10.46%	12.00%
P 419 / GR-81-767	12-28-81	321,444	264,799(S)	264,799	11.51%	13.75%
Norman County						
P 420 / GR-76-1325	6-21-76	30,000	UPGRADE	30,000	4.49%	15.00%
P 420 / GR-81-230	4-15-81	157,285	157,285	157,285	4.93%	13.5%
Northwestern Bell						
P 421 / GR-75-496	10-2-75	49,800,000	25,207,500(R)	33,100,000	8.07%	12.8%
P 421 / GR-77-171	2-18-77	11,835,000	8,609,000(S)	8,609,000	7.8%	12.8%
P 421 / GR-77-1509	12-2-77	63,000,000	(439,000)	–0–	9.03%	11.56%
P 421 / GR-78-388	4-6-79	28,382,000	(8,432,000)	20,807,000	10.19%	12.98%
P 421 / GR-80-911	12-29-80	96,000,000	8,100,000	63,521,000	11.74%	14.7%
P 421 / GR-82-203	4-20-82	89,975,000	3,700,000	–	–	–
Redwood County						
P 424 / GR-81-495	9-25-81	149,602	149,602(S)	149,602	8.16%	15.00%
Sherburne County						
P 427 / GR-76-670	3-23-76	50,534	50,534	50,534	5.10%	–
United						
P 430 / GR-79-644	7-30-79	3,406,000	757,960	2,074,679	10.18%	12.04%
P 430 / GR-80-612	9-5-80	5,700,000	4,058,099	3,757,451	11.1%	12.58%
P 430 / GR-82-200	4-27-82	5,678,374	2,659,824	–	–	–
Wikstrom						
P 432 / GR-76-608	3-16-76	177,000	138,032	138,000	2.73%	15.00%
P 432 / GR-79-450	4-30-79	230,916	105,249	187,986	2.99%	14.5%
P 432 / GR-81-70	1-30-81	341,800	269,595	341,800	3.24%	16.0%

(R) – Mid-point of proposed range. (S) – Stipulated.

Electric Utilities

Electric energy is provided in Minnesota by 184 electric generation and distribution utilities including 128 municipal utilities, 49 electric cooperatives and 7 investor-owned electric companies. Each utility provides service within an assigned service area.

Electricity in Minnesota is generated with coal, nuclear material, oil, gas and hydro power. Coal is the predominate fuel used for generation, with uranium ranking second in the type of fuel used.

Minnesota utilities have three types of generating capacity: baseload, intermediate and peaking. Baseload plants are designed to operate at maximum output for long periods and provide the bulk of a utility's total energy output. Intermediate generating units are designed for flexible output and are placed "on line" when demand exceeds output of the baseload units. Peaking plants are designed for short-term use with flexibility for a quick start-up and shut-down. Peaking units are the most costly to operate and are used only when demand for electricity is in excess of the baseload or intermediate generating capacity.

In 1981 Minnesotans paid more than $1.2 billion for electric service compared to $944 million paid for electric energy in 1977 and $712 million paid in 1975.

The number of Minnesota customers using electricity increased from 1.5 million in 1977 to 1.75 million in 1981. The total utility plant investment of investor-owned electric utilities and distribution cooperatives increased from $2.8 billion in 1977 to $4.1 billion in 1981. The average residential monthly electric bill has steadily increased from $28.21 in 1977 to $42.44 in 1981.

MINNESOTA'S ELECTRIC INDUSTRY[1]

Number of Customers	Amounts
49 Cooperative Electric Companies[2]	432,092
7 Investor-Owned Electric Companies	1,067,593
128 Municipal Electric Companies[2]	256,519
TOTAL	1,756,204

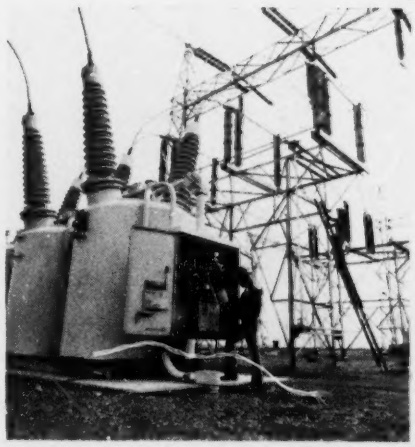
Gross Revenues	
49 Cooperative Electric Companies[2]	$ 324,730,084
7 Investor-Owned Electric Companies	1,229,912,037
128 Municipal Electric Companies	205,751,343
TOTAL	$1,760,393,464

Utility Plant-In-Service	
49 Cooperative Electric Companies[2]	$ 561,542,982
7 Investor-Owned Electric Companies	3,544,810,456
128 Municipal Electric Companies[2]	N/A[3]
TOTAL	$4,106,353,438

	Total Number of Customers	Minnesota Gross Revenue
Northern States Power Co.	870,000	$829,841,000
Minnesota Power Co.	106,074	$317,839,522
Otter Tail Power Co.	52,833	$ 50,551,821
Interstate Power Co.	37,872	$ 31,105,612

[1] 1981 year end.
[2] Not regulated.
[3] Not available.

About one-third of Minnesota's electric energy goes to residential customers, 36 percent is used by industry and the remainder by the commercial section. The average residential, non-farm customer uses an average of 500 kwh of electricity per month, with peak usage in excess of 500 kwh recorded in summer months.



In addition to huge electric generating facilities, electric utilities also maintain a variety of transformer stations to adjust voltage to the needs of various classes of customers.

Electric Utilities

MINNESOTA'S REGULATED ELECTRIC UTILITIES

Composite Statistics – 9 Companies*/**

Plant (Intrastate Only)	Amounts
Plant in Service	$3,564,224,000
Materials and Supplies	57,634,000
Less:	
Depreciation and Amortization Reserves	1,023,163,000
Net Book Costs	$2,598,695,000

Revenues and Expenses (Intrastate Only)	
Operating Revenues	$1,270,276,000
Depreciation and Amortization Expenses	113,237,000
Income Taxes	135,554,000
Other Taxes	91,819,000
Other Operating Expenses	784,978,000
Total Operating Expenses	$1,125,588,000
Net Operating Income	144,688,000
Other Income	11,653,000
Other Deductions	90,713,000
Net Income	$ 65,628,000

Customers (Intrastate Only)	
Residential – Yearly Average	973,315
Commerical – Yearly Average	127,092
Industrial – Yearly Average	1,319
Others – Yearly Average	5,260
Total	1,106,986

Other Statistics (Intrastate Only)	
Average Annual Residential Use – KWH	7,503
Average Residential Cost Per KWH	$.0591
Average Residential Monthly Bill	$42.44
Gross Plant Investment Per Customer	$3,322.73

*As of December 31, 1981, Minnesota Jurisdiction only.
**Does not include municipal utilities or unregulated electric corporatives.

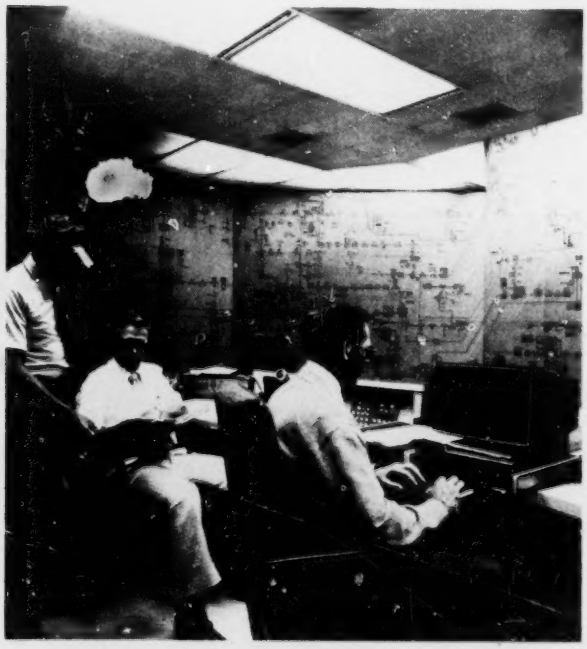
Electric Utilities

MINNESOTA'S REGULATED ELECTRIC UTILITIES*

Company Statistics

Name of Utility	Minnesota Customers Served	Minnesota Operating Revenues	Percent of Regulated Electric Revenues	Electric Utility Plant – In-Service
Bigfork Valley Electric	223	$ 298,334	.02	$ 165,968
Dakota Electric Cooperatives	31,250	31,851,483	2.51	5,239,718
Frost-Benco Cooperative	8,143	8,512,547	.67	14,174,145
Home Light and Power	500	269,748	.02	289,713
Interstate Power	37,872	31,105,612	2.45	100,262,032
Minnesota Power and Light	106,074	317,839,522	25.02	867,154,819
Northern States Power	870,000	829,841,000	65.33	2,369,186,000
N.W. Wisconsin Electric	91	20,335	.001	NA
Otter Tail Power	52,833	50,551,821	3.98	207,751,924
TOTAL	**1,106,986**	**$1,270,276,067**	**100.00%**	**$3,564,224,319**

*All data 1981 year end; does not include non-regulated cooperatives or municipal utilities.



The energy dispatch center serves as the heart of all electric utility distribution systems, with personnel constantly adjusting the flow of energy in response to customer usage.

Minnesotans Provided Power By 474 Electric Generating Units

In Minnesota there are approximately 474[1] electric generating units providing electrical service to residential, commercial and industrial customers. These generating units have the capacity to provide 8,566 megawatts output at peak summer usage. Additional power is available to Minnesota consumers through the benefit of power pools with bordering states and Canada.

Mid-Continent Area Power Pool (MAPP) is one of nine regional reliability councils compromising the North America Reliability Council. MAPP's region covers the states of Iowa, Nebraska, North Dakota, South Dakota, Minnesota and portions of Illinois, Montana and Wisconsin. MAPP gathers data on all its members on load forecasts, new facilities planned and resulting capacity reserves. Current membership of MAPP consists of 12 investor-owned utilities, 8 generation and transmission cooperatives, 3 public power districts, 3 municipal utilities and 1 federal agency.

[1] Includes 6 privately-owned generating units that produce power on site but do not sell power.

RATE CASE SUMMARY – REGULATED ELECTRIC UTILITIES

Rate Orders Issued from January 1, 1975

Utility and Docket Number	Date Filed	Increase Requested	MDPS Recommendation	Increase Granted	Allowed Rate of Return	
					Overall Return	Return on Equity
Dakota Electric Co-op						
E 111 / GR-81-120	2-23-81	$ 1,726,833	$ 1,336,339	$ 1,610,005	8.68%	14.15%
E 111 / GR-82-228	4-30-82	2,130,000	908,663	–	–	–
Frost-Benco Co-op.						
E 104 / GR-81-608	10-23-81	685,955	163,146	–	–	–
Home Light and Power						
E 014 / GR-79-175	5-11-79	27,400	25,411	25,411	11.2%	13.7%
Interstate Power Co.						
ER-1-1	1-30-75	231,156	7,161	(141,854)	7.94%	12.7%
E 001 / GR-76-1826	9-14-76	2,203,130	1,194,227	1,239,000	8.68%	13.0%
E 001 / GR-78-1065	9-27-78	4,996,081	3,454,618	4,060,181	9.08%	12.75%
E 001 / GR-81-345	7-2-81	5,621,000	3,685,137	4,912,490	10.13%	14.35%
Minnesota Power (MP&L)						
E 015 / GR-76-408	2-18-76	9,133,900	3,878,670	(2,100,000)	9.51%	13.25%
E 015 / GR-77-360	4-22-77	31,500,000	21,745,848	25,200,000	9.82%	13.00%
E 015 / GR-78-514	4-10-78	40,960,000	5,640,000	25,274,379	9.76%	13.0%
E 015 / GR-80-76	2-1-80	65,937,314	53,173,600	58,220,170	9.91%	13.47%
E 015 / GR-81-250	5-1-81	37,089,700	31,195,609	25,589,641	10.54%	14.70%
Northern States Power						
ER-2-1	1-2-75	58,717,000	37,200,000	38,640,000	8.55%	12.85%
E 002 / GR-76-934	5-3-76	48,500,000	20,697,500(R)	32,696,000	9.00%	13.0%
E 002 / GR-77-611	5-29-77	69,861,000	40,573,000	37,869,000	9.05%	12.66%
E 002 / GR-80-316	5-1-80	77,530,000	53,128,000	55,478,000	9.73%	13.5%
E 002 / GR-81-342	7-1-81	115,550,000	74,744,000	79,974,000	10.68%	14.7%
E 002 / GR-81-342	Decision after reconsideration			80,483,000	10.69%	14.7%
Northwestern Wisconsin						
E 016 / GR-76-3640	11-23-76	325	325(S)	325	10.5%	11.9%
E 016 / GR-80-88	2-12-80	866	866(S)	866	11.47%	14.00%
E 016 / GR-82-122	2-23-82	3,912	3,912(S)	3,912	13.71%	16.00%
Otter Tail Power Co.						
ER-17-1	4-30-75	4,400,000	2,726,208	4,124,328	9.158%	13.28%
E 017 / GR-77-916	7-29-77	3,625,192	1,642,429	2,661,341	9.3%	13.0%
E 017 / GR-80-277	4-14-80	13,000,000	(161,617)	3,686,662	10.14%	13.57%
E 017 / GR-81-315	6-15-81	18,100,208	15,923,492	15,617,198	11.06%	14.85%

(R) – Mid point of proposed range. (S) -- Stipulated.

Natural Gas

Natural gas is supplied at retail to 847,545 Minnesota customers by 10 regulated natural gas utilities and 18 municipal gas utilities, with combined revenues of $914,388,560 in 1981.

Minnesota is served by four interstate natural gas pipelines, with nearly 95 percent of the natural gas supply delivered to distribution utilities by Northern Natural Gas Company. Natural gas provides about 28 percent of Minnesota's energy requirements.

Minnesota's 10 investor-owned regulated gas utilities have invested nearly $589 million in production and distribution facilities to provide service to Minnesota customers. Gas distribution utilities provide gas through more than 436,667 miles of retail distribution gas mains.

Minnegasco is Minnesota's largest gas utility serving nearly 410,000 customers in the state. Minnegasco's 1981 revenues were in excess of $398 million. Northern States Power Company provides natural gas to 221,331 customers with 1981 revenues in excess of $216 million.

Minnesota's regulatory authority extends only to gas utilities providing natural gas at retail. Wholesale gas rates are regulated by the Federal Energy Regulatory Commission. Distribution utilities serving fewer than 650 customers and municipal gas utilities are exempted from state rate regulation.

Minnesota's gas utilities have developed extensive gas storage facilities in order to provide a stable supply of gas during peak winter months when consumption is in excess of supplies available from pipeline sources.

MINNESOTA'S NATURAL GAS INDUSTRY[1]

Number of Customers	Amounts
10 Investor-Owned Gas Companies	794,150
18 Municipal Gas Utilities[2]	53,395
TOTAL	**847,545**

Gross Revenues	
10 Investor-Owned Gas Companies	$866,889,355
18 Municipal Gas Utilities[2]	47,499,205
TOTAL	**$914,388,560**

Utility Plant-In-Service	
10 Investor-Owned Gas Companies	$588,591,993
18 Municipal Gas Utilities[2]	N/A[3]
TOTAL	**$588,591,993**

[1] 1981 year end.
[2] Non-regulated.
[3] Not available.

	Total Number of Customers	Minnesota Gross Revenue
Minnegasco	409,904	$398,109,161
Northern States Power	221,331	$216,124,000
Peoples Natural Gas	74,138	$146,518,469
North Central Public Service	41,271	$ 26,691,945

TERMS UNDER WHICH NATURAL GAS IS SOLD

Common Units of Gas

1 CF = 1 Cubic Foot = 1,000 BTU
1 CCF = 100 Cubic Feet = 100,000 BTU
1 MCF = 1,000 Cubic Feet = 1,000,000 BTU
1 BCF = 1,000,000 Cubic Feet = 1,000,000,000 BTU

Common Types of Gas

Natural = A naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in porous geologic formations beneath the earth's surface, often in association with petroleum. The principal constituent is methane.

LNG = Liquified Natural Gas = Natural gas cooled to −259°F at which temperature it is a liquid at approximately atmospheric pressure.

Propane = A gaseous hydrocarbon of the methane series which occurs naturally in petroleum.

LPG = Liquified Petroleum Gas = Liquified propane gas under moderate pressure at normal temperatures.

Natural Gas

MINNESOTA'S REGULATED NATURAL GAS UTILITIES

Composite Statistics – 10 Companies*/**

Plant (Intrastate Only)	Amounts
Plant in Service	$588,592,000
Plant Acquisition Adjustment	899,000
Materials and Supplies	30,694,000
Less:	
Depreciation and Amortization Reserves	180,403,000
Net Book Costs	$439,814,000

Revenues and Expenses (Intrastate Only)	
Operating Revenue	$866,889,000
Depreciation and Amortization Expenses	20,441,000
Income Taxes	19,594,000
Other Taxes	30,498,000
Other Operating Expenses	765,104,000
Total Operating Expenses	$835,637,000
Net Operating Income	31,252,000
Other Income	1,652,000
Other Deductions	7,277,000
Net Income	$ 25,627,000

Customers (Intrastate Only)	
Residential – Yearly Average	721,244
Commercial – Yearly Average	68,831
Industrial – Yearly Average	4,073
Others – Yearly Average	2
Total	794,150

Other Statistics (Intrastate Only)	
Average Annual Residential Use – MCF	113.9 MCF
Average Residential Cost Per MCF ($)	$4.36
Average Residential Monthly Bill (Includes non-heating customers)	$40.51
Gross Plant Investment Per Customer	$678.22

*As of December 31, 1981, Minnesota Jurisdiction only.
**Does not include municipal gas utilities or non-regulated gas utilities with fewer than 650 customers.

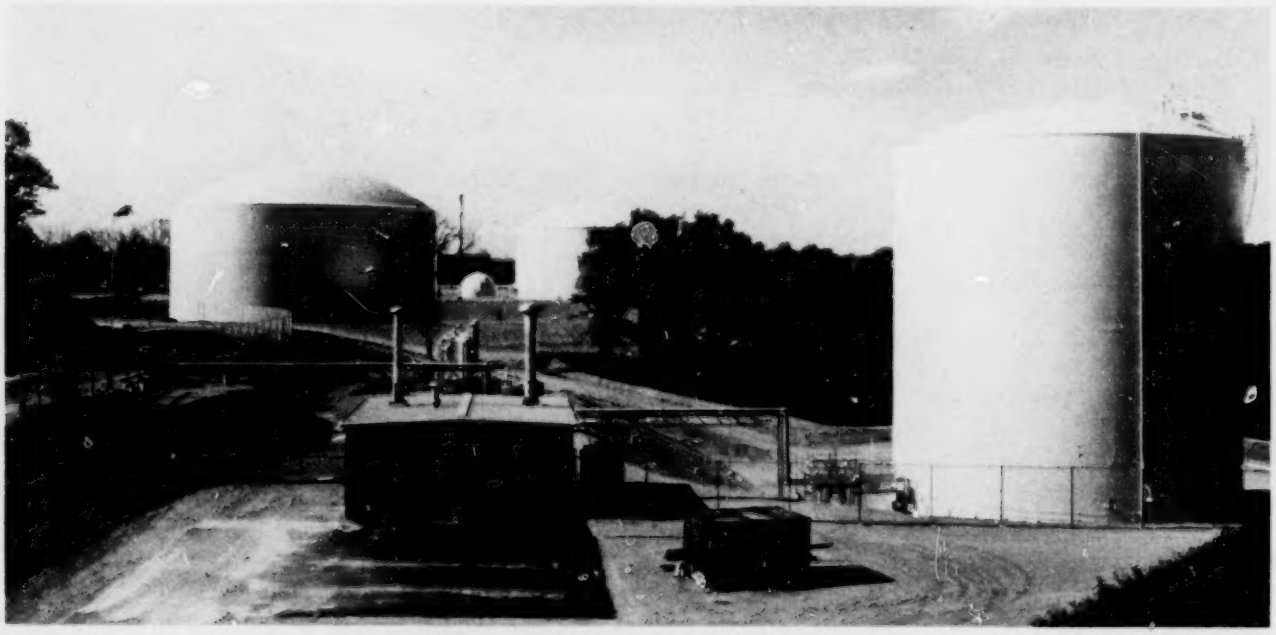
Natural Gas

MINNESOTA'S REGULATED NATURAL GAS UTILITIES*

Company Statistics

Name of Utility	Minnesota Customers Served	Minnesota Operating Revenues	Percent of Regulated Natural Gas Revenues	Gas Utility Plant – In-Service
Great Plains Natural Gas Co.	11,934	$ 13,914,209	1.605	$ 9,719,221
Inter-City Gas Company	19,189	50,965,426	5.879	17,169,801
Interstate Power Company	8,849	7,285,809	.840	4,027,069
Iowa Electric Light and Power Co.	4,361	4,148,888	.478	1,704,781
Minnesota Gas Company	409,904	398,109,161	45.923	288,041,372
Montana-Dakota Utilities	1,747	2,182,701	.252	1,245,324
North Central Public Service Co.	41,271	26,691,945	3.079	23,356,625
Northern States Power Company	221,331	216,124,000	24.931	198,434,000
Peoples Natural Gas Company	74,738	146,518,469	16.901	44,168,256
Western Gas Utilities, Inc.	1,426	948,747	.109	725,544
TOTAL	**794,150**	**$ 866,889,355**	**100.00%**	**$ 588,591,993**

*All data 1981 year end; does not include data from non-regulated municipal gas utilities or gas utilities serving fewer than 650 customers.



Extensive above ground and underground gas storage facilities assure a continuing supply of gas to customers when demand is in excess of supplies available from regular pipeline supplies. Peak shaving facilities are strategically located at various points to assure continuous service.

RATE CASE SUMMARY – REGULATED GAS UTILITIES

Rate Orders Issued from January 1, 1975

Utility and Docket Number	Date Filed	Increase Requested	MDPS Recommendation	Increase Granted	Allowed Rate of Return	
					Overall Return	Return on Equity
Great Plains						
U-75-433	9-24-75	$ 625,000	$ 242,861	$ 331,000	9.29%	13.55%
G 004 / GR-78-690	5-15-78	761,244	347,782	202,448	9.89%	13.0%
G 004 / GR-81-503	9-30-81	969,202	459,005	587,003	12.84%	14.83%
Inter-City						
G 007 / GR-81-300	6-2-81	2,800,000	2,201,000	2,248,200	11.49%	15.00%
Interstate Power						
GR 1-1	4-8-75	273,040	239,142	239,000	8.00%	13.46%
G 001 / GR-80-683	9-29-80	420,947	358,838	358,838	9.73%	13.45%
Iowa Electric						
G 006 / GR-80-780	10-31-80	428,000	379,390	423,403	9.85%	13.44%
G 006 / GR-82-426	8-31-82	371,448	–	–	–	–
Minnesota Gas Company						
G 008 / GR-77-1237	10-3-77	16,900,000	7,474,000	9,143,000	10.06%	12.47%
G 008 / GR-80-630	8-29-80	28,300,000	11,580,000(R)	17,317,000	11.78%	14.43%
G 008 / GR-82-249	5-21-82	29,758,000	18,571,000	–	–	–
Montana Dakota						
G 009 / GR-77-704	6-6-79	283,800	278,882	278,882	8.97%	12.0%
G 009 / GR-81-448	9-2-81	178,670	166,000	174,000	11.31%	14.7%
North Central						
G 010 / GR-77-221	3-1-77	1,105,700	482,094	780,201	10.82%	13.33%
G 010 / GR-80-472	6-20-80	1,801,489	1,659,921(S)	1,461,354	13.01%	14.50%
G 010 / GR-81-780	12-31-81	1,480,000	463,315(R)	–	–	–
Northern States Power						
G 002 / GR-76-3627	11-19-76	6,439,000	4,460,000	5,481,000	9.08%	12.9%
G 002 / GR-77-1015	8-19-77	289,000	238,104	238,000	9.06%	12.6%
G 002 / GR-78-1052	9-22-78	7,443,000	4,840,000	4,821,932	9.29%	12.9%
G 002 / GR-80-556	7-30-80	11,007,000	8,830,200	9,009,900	10.03%	13.77%
G 002 / GR-81-508	10-1-81	16,583,600	9,267,800	13,512,400	10.77%	14.74%
Peoples Natural Gas						
G 011 / GR-80-850	12-1-80	2,121,563	1,288,000	1,452,000	12.45%	14.5%
G 011 / GR-82-65	1-29-82	6,919,000	4,516,000	–	–	–
Western Gas						
G 012 / GR-79-7	1-2-79	100,242	63,408	63,408	10.80%	–
G 012 / GR-81-106	2-23-81	93,500	46,792	78,915	12.99%	14.0%

(R) – Mid point of proposed range. (S) – Stipulated.

Energy Use Data

Energy Conversion Factors

BTU Equivalents:
Oil, Gas, Coal & Electricity

One British thermal unit (Btu)
- the heat energy required to raise the temperature of one pound of water (approx. one pint) one degree Fahrenheit at or near its point of maximum density.

One barrel (42 gallons) of crude oil
- 5,800,000 Btu's of energy
- 5,604 cu. ft. of natural gas
- 0.22 ton of bituminous coal
- 540 kW hours of electricity (32 percent conversion efficiency)

One cubic foot of natural gas
- 1,032 Btu's of energy
- .000178 barrel of oil
- .000040 ton of bituminous coal
- .096 kWh (32 percent conversion efficiency)

One short ton (2,000 lbs.) of bituminous coal
- 26,200,000 Btu's of energy
- 4.52 barrels of oil
- 25,314 cu. ft. of natural gas
- 2,520 kWh (33 percent conversion efficiency)

One kilowatt hour of electricity
- 3,412 Btu's of energy
- .00184 barrel of oil (32 percent conversion efficiency)
- 10.368 cu. ft. of natural gas (32 percent conversion efficiency)
- .00004 ton of bituminous coal (33 percent conversion efficiency

NOTE: Btu values can vary from one product sample to another.

APPLIANCE POWER DRAW

This chart indicates the power draw of various appliances. By multiplying your KwH rate you can quickly determine the costs of operating the electric appliances found in most homes.

	Average wattage	Average hours of use per month	Average KWH per month
LAUNDRY			
Clothes dryer (electric)	4,856	17	83
Clothes dryer (gas)	300	17	5
Iron	1,008	12	12
Washer (automatic)	512	17	9
Washer (non-automatic)	286	22	6
Water heater (quick recovery)	4,500	110	500
COOKING & REFRIGERATION			
Broiler (Counter top)	1,436	6	8
Electric fry pan	1,196	13	16
Microwave oven	1,450	14	20
Range/oven (Self cleaning, add 25¢ a month)	3,000	41	123
Refrigerator (12 cu. ft.)	300	250	75
Refrigerator (Frostfree, 12 cu. ft.)	330	316	105
Refrigerator-freezer (partial frostfree – 14 cu. ft.)	350	350	123
Refrigerator-freezer (Side-by-side frostfree, 19 cu. ft.)	500	360	180
Freezer (Upright frostfree, 15 cu. ft.)	440	333	147
Freezer (Chest type, 15 cu. ft.)	341	292	100
KITCHEN			
Blender	386	3	1
Coffee maker (Standard percolator type, 2 pots per day)	900	9	20
Coffee maker (New drip type, 2 pots per day)	1,550	9	30
Dishwasher	1,201	25	30
Toaster	1,146	3	3
Crockery cooker	100	120	12
HOME ENTERTAINMENT			
Radio	71	101	7
Stereo	109	83	9
Television (Black & white tube type, 160-watt)	160	182	29
Television (Black & white solid state, 55-watt)	55	182	10
Television (Color tube type, 300-watt)	300	183	55
Television (Color solid state, 200-watt)	200	183	37
MISCELLANEOUS			
Blanket	177	69	12
Clock	2	730	1
Vacuum cleaner	630	6	4
Garage Door Opener	230	2	15

Glossary. . . Oft used regulatory terms and phrases

Access Line – A line that continuously connects a subscriber's station to a switching center (exchange) or common carrier operating center.

Advanced Mobile Phone Service, Inc. (AMPS) – The AT&T subsidiary that will offer mobile cellular radio service. It has proposed to offer service by November 1983.

Affiliated Interests – Ancillary activities related to the operations of a business.

AFUDC – Allowance For Funds Used During Construction. The cost of money used to finance construction work prior to being placed in service. AFUDC amounts are included in the income statement, added to the cost of plant, and recovered through depreciation during the life of the facility after being placed in service.

Amortization – The extinguishment of an amount over a period of time, for example, the periodic allocation of bond premium or discount to bond interest expense.

Billing Cycle – A regular periodic interval used by utilities to read customer meters and process statements of usage and charges.

Block Rate Schedule – A utility rate schedule which provides different unit charges for various blocks of demand or energy.

Bond Rating – A rating system that provides investors with a simple set of grades indicating investment qualities of corporate and government bonds.

Book Value – An accounting term, found by adding all assets and deducting all debts and other liabilities and dividing this sum by the number of common shares outstanding. Regulatory agencies often use book value as a guide to rate of return.

British Thermal Unit (BTU) – The amount of heat required to raise the temperature of one pound of water one degree fahrenheit under stated conditions of pressure and temperature.

Capital – Equity capital is money invested in a company's stock plus company earnings not paid out in dividends; Debt capital is money invested by the public in a company's long term bonds and various types of short term loans.

Capital Structure – The total of common stock equity, preferred stock, long term and short term debt used to calculate an appropriate rate of return. Retained earnings are sometimes included as part of the capital structure.

Cellular Mobile Telephone Service – An advanced car and portable radio service that is based on the use of small low-powered antennas which allow market areas to be divided into small cells. It is the equivalent of a private line with extended coverage.

Central Office – A common carrier office that provides service to the communications user where orders for and signals controlling telephone connections are received and established.

Centrex – A telephone switching system, usually on a customer's premises which is connected to a common group of lines from a telephone central office to provide telephone service to many individual stations.

Certificate of Need – A permit issued by the Minnesota Energy Agency prior to construction of electric generation or transmission facilities or coal terminals. In Minnesota a certificate is required for transmission lines of 200-300 kilowatts if longer than 50 miles and for transmission lines more than 300 kilowatts if longer than 25 miles.

City Gate – A measuring point or station where a gas distribution utility receives gas from a pipeline or gas transmission system.

Class of Service – Defines type of customer, such as residential, commercial, industrial, etc.

Cogeneration – The sequential use of the heat of combustion both to generate electricity and to perform other useful work (such as heating a building).

Contribution – The excess of revenues over costs.

Cost of Service – A study used to determine the cost of providing a utility service to various customer classes as a guide in designing rate schedules.

Cost Separations Study – This is used to determine the expenses and investments needed to produce a particular service such as toll.

CPA – Cooperative Power Association. A generation and transmission cooperative providing electric power to 18 electric distribution companies serving Minnesota.

Crossbar – A type of switch used in central offices. This line switch has several horizontal and vertical paths which are electromagnetically or electronically interconnected.

Glossary. . . Oft' used regulatory terms and phrases

Cross-Subsidization – The act of one rate or one class of customers producing more/less than its fair share of direct costs, resulting in indirect income transfers to/from some other rate or class.

Cubic Feet – A measurement in the sale of natural gas. Ccf is an indicator of 100 cubic feet; Mcf is a measurement of 1,000 cubic feet.

Customer Costs – Costs that are related to and vary with the number of customers, such as meters, meter reading, service equipment, and a portion of distribution.

CWIP – Construction Work In Progress. A term used to define money which has been spent for utility facilities prior to being placed in service.

Dataphone ® – A service mark of AT&T for any arrangement wherein data is transmitted over the public switched telephone network.

DCF – Discounted Cash Flow. A method used to determine a reasonable rate of return on equity, based on the market cost of equity.

Debentures – Certificates of indebtedness issued for long term capital funds, secured by the general credit of the issuing utility or corporation; synonymous with bond.

Debt Ratio – This ratio refers to the percent debt capital is of total capital and indicates the relative financial risk of the company. The more debt, the more risk to the company because a fixed interest charge or debt must be paid. (Debt ratio = (total debt ÷ total capital) X 100 = X%)

Declining Block Rates – A rate schedule which provides for charges per unit that decrease as usage increases.

Decommissioning – The process of removing or retiring nuclear power plants from service. Much controversy exists over what method should be used to retire a nuclear plant and who should bear the cost of this retirement.

Dedicated Channel – A channel leased by a customer from a common carrier which is at the exclusive disposal of the leaser. Also called "leased line" or "private line."

Deferred Income Tax Expense – A method of accounting for the time elapse between an actual transaction on the utility books and recognition of the transaction in calculating income taxes.

Degree Day – An energy consumption measurement based on the relationship between the average temperature of a day measured against a mean temperature of 65 degrees (F). Each degree of a day's average temperature below 65 degrees (F) is one heating degree day; each degree of a day's average temperature above 65 degrees (F) is considered one cooling degree day.

Demand – The rate at which energy is delivered to a system or piece of equipment expressed in cubic feet (gas) or kilowatts (electric) at a given instant, or over a period of time. Utilities set load and charges based on billing demand, coincident demand, contract demand, rachet demand, etc.

Demand Charge – That portion of a charge for electricity or natural gas that is based on the actual or estimated peak daily (monthly or hourly) usage of the customer.

Depreciation – An expense entered on the books each year for replacing plant, equipment, buildings, etc., that are worn out or obsolete.

District Heating – The use of a central energy source to provide some area or district with heat.

Diversification – The initiation of any line of business apart from the traditional functions of the utility.

Dividend to Book Value – The annual dividend rate per share of common stock dividend by the book value of the common stock. Financial analysts use this in comparing earnings of public utilities.

Earnings – Sometimes called "net income" or "profits." Earnings are derived by deducting expenses and taxes from revenues.

Earnings Per Share – Company earnings available to common stock lenders during an accounting period divided by the number of shares of common stock outstanding during the same period.

Equity – Ownership interest of common and preferred stockholders in companies.

Exchange – A unit established by telephone company for the administration of service in a specified area which usually includes a city or town and surrounding areas.

Extended Area Service (EAS) – Is a service which provides customers of one central office unlimited access to an area or areas outside the region served by the local switch without incurring toll charges.

Glossary. . . Oft' used regulatory terms and phrases

External Financing – Funds provided from outside sources through sales of bonds or borrowing on a short term basis to finance operations which cannot be financed through internal sources.

Expenses – Money spent to produce revenues such as salaries, materials, interest, depreciation, maintenance, etc.

Extension – An extra handset associated with a main telephone station on the same premises but at a different location.

Facsimile – The transmission of pictures, maps or other documents via communications channels by a device which scans the original and transforms the image into coded signals.

FERC (Federal Energy Regulatory Commission) – In October 1977, FERC succeeded the Federal Power Commission (FPC) as the agency that sets and enforces wholesale electric rates and prescribes standards for state regulation of gas and electric utilities. FERC is a three-member board that is part of, but independent of, DOE.

Firm Service – Utility service offered to customers under schedules or contracts which anticipate no interruptions.

Fixed Charge – When used in the broad sense, it refers to the annual costs attached to the ownership of property such as depreciation taxes, insurance, cost of money, maintenance, general and administrative expenses.

Flat Rates – The price charged per unit is constant, i.e., does not vary on account of an increase or decrease in the number of units.

Fuel Adjustment Clause – A clause in a rate schedule that provides for an adjustment in the customer's bill if the cost of fuel for energy generation arises from a specific unit cost.

FX – Foreign exchange service whereby a customer may obtain local telephone service from an exchange foreign to the exchange in which the customer is located.

Gigawatt – A measurement of electricity. A gigawatt is equal to one billion watts, one million kilowatts or 1,000 megawatts.

Grade of Service – An expression of quality of a given transmission service in terms of delay, access time, answering time or error rate.

Grandfathered Rate – A rate allowed to stay in effect based on circumstances previously existing.

Handset – Any type of manual telephone instruments.

Hearing Examiner – The presiding officer in the hearing process. The examiner makes recommendations to the Public Utilities Commission based on his or her findings during public and evidentiary hearings.

Holding Company – A business organization which controls another business organization through ownership of its stock, interlocking directorates or agreements.

Incoming Trunk – A trunk coming into a central office. In PBX systems, an incoming trunk can be arranged to receive calls from the central office.

Incremental Cost – In the energy field this refers to the increase in cost of generating or transmitting additional energy above some previously determined base amount.

Inside Wiring – A term used to denote the wiring installed inside a residential home or business establishment to provide telephone service. The Federal Commerce Commission has ruled that the full cost of new wiring installations may be expensed rather than capitalized.

Interconnection – A term used to denote the connection between two electric systems permitting the transfer of electric energy in either direction.

Interest Coverage – This measurement portrays how many times earnings (before interest deductions) will pay the interest on total debt (i.e., how able is the company to pay fixed interest costs?) "Interest Coverage" is a key measurement of a firm's financial health/risk and is a primary factor used in the determination of its credit rating.

Internal Financing – These are dollars available to the company from retained earnings, depreciation and other tax benefits which are not "out-of-pocket" expenses.

Interruptible Service – Low priority service offered to utility customers under tariffs which anticipate interruption on short notice. Gas or electricity can be curtailed to interruptible customers at peak load periods or when there is insufficient supply.

Intrastate – Within a given state.

Inverted Rates – In this type of a rate structure the price per unit charged rises with each succeeding block of consumption.

Glossary. . . Oft' used regulatory terms and phrases

Jack — The physical connecting device at the interface which mates with a compatible receptacle — a plug.

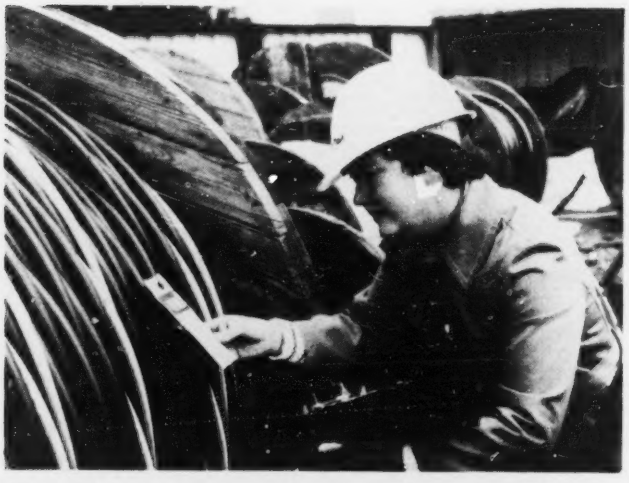
Key System — A group of associated key sets connected to allow channel selection and intercommunication to a number of handsets connected to the system.

Lead-Lag Study — A lead-lag study is one method of calculating the cash working capital needs of a utility. Working capital represents those items necessary to operate on a day-to-day basis such as cash, materials, fuels, supplies and prepaid expenses. In a lead-lag study, the time is measured between when service is provided and costs incurred and when revenues are received.

Lifeline Rates — A low, uniform charge (usually priced below cost) for an initial block of consumption of electricity or natural gas. Lost revenues can be recovered by charging higher rates to other rate schedules or to customers who consume higher quantities of electricity or natural gas.

LNG — Natural gas cooled to 259 degrees below zero so it forms a liquid, reducing volume nearly 600% allowing storage and transportation. The cooling process does not alter the gas chemically and regasified LNG is introduced in the system the same as natural gas.

Load — The amount of energy (gas, electricity) delivered or required at any specific point or points on a utility system.



Many thousands of miles of overhead and underground cable carry electric energy and telephone conversations throughout the state of Minnesota with minimum outage problems.

Local Access and Transport Area (LATA) — Following the divestiture of the Bell Operating Companies from AT&T, the geographic area within which the local company will provide exchange service, including short-haul toll. Service between LATAs will be provided by AT&T Long Lines. A LATA will encompass areas with common social and economic interests, and may transcend municipal or even state boundaries.

Local Loop — A channel that connects subscribers with line-terminating equipment in the central office.

Local Measured Service — A method of pricing local usage based on the number of local messages, the length of these measures, and the distance within the local exchange area. The purpose of measured service is to charge customers an amount more in line with their actual usage.

Long-Lines — AT&T's interstate communications company. Long Lines is responsible for all interstate services of AT&T.

Loop — A physical path connecting local terminals with central offices.

Main Station — A telephone station which is directly connected to a central office.

Marginal Pricing — An economic concept where the price is intended to reflect the cost of providing an additional unit of output such as a kilowatt or Ccf of gas.

Megawatt — One million watts or a thousand kilowatts.

Mobile Radio Telephone — A system which allows voice and control transmissions from a mobile station (a car phone) to a stationary ground control center.

Normalization — An accounting method by which the company spreads current tax benefits from accelerated depreciation over the useful life of each facility being depreciated. Normalization insures that current and future customers each bear their appropriate share of income taxes for the facilities that provide their electricity.

Original Cost — Cost of property to the one who first devoted it to public use.

PBX (Private Branch Exchange) — A switching system capable of providing intra-premises exchange service without having to access the public telephone exchange.

Glossary. . . Oft' used regulatory terms and phrases

Peak Demand – The greatest demand on a utility system during a prescribed interval. This can be calculated by calendar year, by season, by class, by time-of-day, or by time-of-use.

Peak-Load Pricing – The pricing of a utility service based on the load imposed during the peak period of usage. This pricing technique is used to discourage usage during peak periods.

Person-to-Person Call – An operator assisted call in which the calling party specifies the person with whom he or she wishes to speak.

Preferred Stock – The class of stock that has a prior claim to common stock, on the earnings of a corporation and on the assets of the corporation in the event of a liquidation.

Price/Earnings Ratio – The price of a share of stock divided by earnings per share for a twelve-month period; a stock selling for $50 a share and earning $5 a share is said to be selling at a price-earnings ratio of 10 to 1.

Purchase Gas Adjustment – A clause in a tariff that provides for an adjustment in billing if the utility's cost of purchase of gas or electricity varies from a specified unit cost.

Public Utilities Regulatory Policy Act (PURPA) – The National Energy Act was signed into law on November 9, 1978. The National Energy Act consists of five acts, one of them being the Public Utilities Regulatory Policy Act. Its stated purposes are "conservation of the energy supplied by utilities, equitable rates to customers, and optimization of the efficient use of electric generating and related facilities." Each state regulatory agency is required to consider (6) electric rate design standards and (5) regulatory policy standards.

Rachet Charge – A rate where maximum past or future demands are taken into account to establish billings for previous or subsequent periods.

Rate Base – The value of investment established by a regulatory authority upon which a utility is permitted to earn a specified rate of return. Generally, this represents the amount of property used and is useful in service to the public.

Rate Case – The procedure through which a utility and intervening parties present evidence on utility rates, revenue and service issues.

Rate of Return – The ratio of net operating income to a specified rate base, expressed as a percentage.

REA (Rural Electrification Administration) – The federal agency that deals with electric membership cooperatives. The REA approves and guarantees loans to co-ops for generation, transmission and distribution facilities. Congress passed the Rural Electrification Act in 1936. Co-ops are sometimes called REAs.

Regulatory Lag – The lapse of time, usually between nine to twelve months, between a petition for rate increase filed by a utility and the formal action on the petition by the Public Utilities Commission.

Repression – Repression, when used as a regulatory term, means a reduction in the quantity demanded of some good due to some outside force.

Retained Earnings – The portion of a company's earnings which are not paid out in dividends is called "retained earnings." This money is usually reinvested in the business.

Revenue Requirement – The revenue level necessary to achieve a specified rate of return.

Revenues – This is money received from customers for a product or services.

Return on Equity – This ratio tells investors what they are earning on their investment. It is computed by dividing earnings by total equity and expressing it as a percent. (Earnings ÷ total equity capital X 100 = % of return on equity)

Rolled-In Rates – This refers to the averaging of costs (usually within a natural gas distribution company) including purchase gas costs to arrive at a uniform rate schedule for all customers in a company's entire operation.

Regular checks of electric and gas meters by utility personnel assures accurate measurement of energy consumption. Some meters have special radio controls which are used to control service during periods of peak demand.

Glossary. . . Oft' used regulatory terms and phrases

Service Area – A territory in which a utility is required or has the right to provide service.

Short Haul – An AT&T private line service connecting stations on a circuit for a total of less than twenty-five airline miles.

Standby Service – Service that is not normally used but which is available through a permanent connection or as a supplement to the usual source of energy supply.

System Loss – Total energy loss in a utility system, consisting of transmission, transformation and distribution losses and unaccounted energy losses between sources of supply and points of delivery.

Tail Step (Block) – The last or lowest priced block of energy or demand in a declining block rate schedule.

Take and Pay – Energy sales contracts that stipulate that payment will be made only for energy actually delivered.

Take or Pay – Energy sales contracts that require payment for a given amount of energy whether it is used or not.

Tariff – The schedule of rates and regulations applicable to each utility are on file with MDPS.

Terminal – A generic term used for any piece of equipment capable of receiving or transmitting data via telephone lines.

Tie Line – A private line communication channel which directly links two or more terminal points.

Toll – A charge for making a telephone call outside the boundaries of the exchange.

Trouble Index – Measurement of service problems per 100 telephones.

Trunks – A communications channel between switching devices or central offices.

Two Party Service – Type of local service offered by some telephone companies where two subscribers are connected to one line with selective ringing at each subscriber's location.

Unbundling – This term refers to the separating or "unbundling" of the basic monthly service rate into a charge for an access line, an instrument charge and an extended area service charge.

United Power Association (UPA) – A generation and transmission cooperative serving 22 electric distribution cooperatives in Minnesota and Wisconsin.

Electric and telephone service personnel perform highwire acts and pole climbing activities as a routine part of customer repair and upgrading of utility services.

United States Independent Telephone Association (USITA) – A national trade association of independent (non-Bell system) telephone companies.

Used and Useful – A standard applied by regulatory commissions in determining when utility property ought to be included in a utility rate base and therefore allowed to earn a fair and reasonable return upon this property.

Utility Plant-in-Service – That portion of a utility's plant which is devoted to the operations of the company.

Vertical Services – Products or services that customers have the option of adding that enhance basic telephone exchange service. Examples: Custom calling features, Touch Tone®, or speakerphones.

Watt – The standard unit of electric power in the U.S., named for James Watt; equal to 1/746th horsepower.

Wide Area Telecommunications Service – Abbreviated WATS. WATS is a bulk-rate, discounted, long distance telephone service billed on the basis of hours of use with the options of full-time, part-time, statewide, regional or national service.

Zone Rate Schedule – A rate schedule restricted in its availability to a particular service area.